The True Nature of Value

RUFUS FARRINGTON SPRAGUE

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Edward N. Dingley

THE TRUE NATURE OF VALUE

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BY
RUFUS FARRINGTON SPRAGUE

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Chicago: The University of Chicago Press
1907

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Published December 1907

Gift
Mrs. Edward N. Dingley
Aug. 5, 1931

Composed and Printed By
The University of Chicago Press
Chicago, Illinois, U. S. A.

Aug 24 1932

PREFACE

It was not until the early 70's, when the money question had become a political issue of sufficient gravity to overshadow other questions growing out of the Civil War, that it had more than a passing interest for the average citizen and voter. Prior to that time I had vaguely shared, or at least had not rejected, the popular belief that the premium on gold was largely or wholly due to the speculative manipulations, or traitorous machinations, of a powerful but unscrupulous group of rebel sympathizers on the stock exchange. Indeed, I think I was at one time disposed to agree with those who advocated punishment for those who were responsible for this apparent evil. I say "apparent" evil because I was so situated that I could not help perceiving that as the premium on gold rose or fell, staple products, both agricultural and manufactured, domestic and foreign, tended to advance or decline proportionately. While the popular tendency was to regard each increase in the premium on gold as objectionable, advances in the prices of other products, especially

those of domestic origin, obviously had their compensations.

Finally, it began to dawn upon my mind that there might be some truth in the contention of those who maintained that the premium on gold was largely, if not wholly, due to the fact that its value, like that of other commodities, was expressed in terms of a depreciated currency, and that it was not gold that went up but currency that went down, and vice versa. Evidently there were two sides to the money question, and I became imbued with a desire to investigate it more thoroughly.

I soon arrived at the conviction that since money was universally accepted as the standard of value, the only way to have a perfect understanding of the money question was to discover exactly what was meant by the term "value." The most common definitions of this term at that time were "power in exchange" and "purchasing power," but they did not make clear what constituted or conferred value, nor what measured it. I accordingly read work after work by the leading authors on the subject, but without being able to find any exposition of the nature of value that appealed to me as correct or complete, or one that furnished a practical working-theory applicable to the busi-

ness affairs of every-day life—a test, by the way, by which every theory of value will ultimately have to stand or fall. I was thus thrown upon my own resources and compelled to analyze the matter for myself. The theory of value that follows is the result of a practically uninterrupted study of the subject for a period of over thirty years.

As this book is designed to assist those who, like myself, wish to understand the money problem and to arrive at a correct solution of the various social problems that confront us, it has been my constant endeavor to put my theories into the simplest possible form and language.

Since there are some points of resemblance between my exposition of this theory and that of Bastiat, a French author who, it appears, formulated a service theory of value during the last century, I desire to explain, in justice to myself, that my conclusions were reached quite independently of any knowledge of Bastiat's theories or writings. Indeed, it is only recently that my attention was called to the fact that this writer, neglected or forgotten by political economists of the present day, had formulated a service theory somewhat similar to mine, though I am told, far less complete. Every line of my work, from chap. ii on, was written and put in

its present form before I learned of the contributions of Bastiat quoted in the introductory chapter. These quotations were brought to my attention and compiled for me by a distinguished writer on economics and professor in one of our great universities to whom I had submitted the result of my labors, and to whom I am greatly indebted for criticism and suggestions as to its arrangement for publication. My definite conception of *Objective Hindrances* as the measure of that service utility that alone constitutes Value should relieve me of the charge of *ambiguity* that I learn has been brought against the Service Theory as presented by Bastiat—a defect, by the way, that, judging by my own experience and his recognized genius, would, but for his premature death, have been remedied by him.

In my judgment the theory presented by me in the following pages explains much that has heretofore seemed vague and inexplicable, and it throws much light not only on economic, but on social, and ethical questions. I shall show that equity demands that compensation should always be in proportion to the service rendered, a result that is automatically secured whenever free competition is established; but that human greed impels every man to strive for a monopoly

which would enable him to demand and secure compensation, not on the equitable basis of the utility of his service in supplying a product, —that is, in rendering it available for use— but on the inequitable basis of the utility of the product itself.

Chap. xiii contains a practical application of the Service Theory to a discussion of Metallic and Paper Money. The perfect adaptedness and entire sufficiency of this theory as a means of throwing needed light upon obscure phases of this subject should be manifest to the unprejudiced reader. If this chapter seems to contain repetitions of matter that has necessarily appeared in preceding chapters, it is not by oversight but by intention, in order that the discussion of money, the unit or standard of value, might be complete in itself. Incredible as it may seem to those who are now resting in fancied security, the "money question," which in every country and in every age has come, and in the very nature of things must come, to the surface in times of great financial stress, can never be permanently settled until a true conception of the nature of that value of which it is the recognized standard has been conclusively established.

In 1902 I sought and obtained permission to

present my views on the question of value before the American Economic Association at its annual meeting in Philadelphia, on December 28; but the paper I read on that occasion was only a brief summary of the subject as far as then worked out.

Confident that my theory will stand every test that can be applied to it, I now submit it to the public.

RUFUS FARRINGTON SPRAGUE

GREENVILLE, MICH.
Oct. 21, 1907

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CHAPTER I

INTRODUCTION

§ 1. It should be clearly understood at the beginning that the purpose of this study is to ascertain the true principles regulating exchange value, as they work in the markets of today. However differently the case may here be presented from that found in modern treatises, the object aimed at is not the less an explanation of exchange value.

Since the value of the service is fully insisted upon in the following exposition, it seems best to present herewith Bastiat's service theory, in a brief but careful way, in order that the differences and resemblances may be noted by the reader. My own analysis, however, which is presented in these pages, was fully worked out, it is needless to say, without any knowledge of Bastiat's treatment.

§ 2. Bastiat's service theory was propounded in his *Harmonies Économiques*, as the pivotal part of his whole conception of the science of political economy.[1] It will be best to give this theory in his own words:

[1] The quotations have been taken from Stirling's translation: *Harmonies of Political Economy*, by Frederic Bastiat, translated

Let us analyze the co-operation of nature of which I have spoken. Nature places two things at our disposal —*materials* and *forces*.

Most of the material objects which contribute to the satisfaction of our wants and desires, are brought into the state of *utility* which renders them fit for our use only by the intervention of labour, by the application of the human faculties. But the elements, the atoms, if you will, of which these objects are composed, are the gifts, I will add, the *gratuitous* gifts, of nature. . . . .

It is very evident, that if man in an isolated state must, so to speak, *purchase* the greater part of his satisfactions by an exertion, by an effort, it is rigorously exact to say that prior to the intervention of any such exertion, any such effort, the materials which he finds at his disposal are the *gratuitous* gifts of nature. . . . .

I add now, and by anticipation, that things begin to possess *value* only when it is given to them by labour. I intend to demonstrate afterwards that everything which is *gratuitous* for man in an isolated state is gratuitous for man in his social condition, and that the gratuitous gifts of nature, *whatever be their* UTILITY, have no value. I say that a man who receives a benefit from nature directly and without any effort on his part, cannot be considered as rendering himself an *onerous service*, and, consequently, that he cannot render to another any service with reference to things which are common to all.

from the French, with a notice of the life and writings of the author, by Patrick James Stirling, London, John Murray, 1860, 8vo, pp. xl + 298. The sixth volume of *Œuvres complètes de Frédéric Bastiat*, Guillaumin et Cie, Paris, 1870, contains the *Harmonies* unabridged. The *Œuvres choisies*, 12mo, edited by Félix Alcan, omits the whole discussion of value, and is of little use.

Now, where there are no services rendered and received, there is no *value*.

All that I have said of *materials* is equally applicable to the *forces* which nature places at our disposal. . . . . But these natural forces, in themselves, and apart from all intellectual or bodily exertion, are *gratuitous* gifts of Providence, and in this respect they remain destitute of *value* through all the complications of human transactions. . . . .

The irresistible tendency of the human mind, stimulated by self-interest, and assisted by a series of discoveries, is to substitute natural and gratuitous co-operation for human and onerous concurrence. . . . . What is the result of it? This, that in every product the *gratuitous* element tends to take the place of the *onerous;* that *utility*, being the result of two *collaborations*, of which one is remunerated and the other is not, Value, which has relation only to the first of these united forces, is diminished, and makes room for a *utility* which is identically the same, and this in proportion as we succeed in constraining nature to a more efficacious co-operation. So that we may say that mankind has as many more *satisfactions*, as much more *wealth*, as they have less *value*. Now the majority of authors having employed these three terms, *utility*, *wealth*, *value*, as synonyms, the result has been a theory which is not only not true, but the reverse of true. . . . .[2]

Thus, the definition of the word Value, in order to be exact, must have reference not only to human efforts, but likewise to those efforts which are exchanged or exchangeable. Exchange does more than exhibit and measure

[2] Stirling's translation, pp. 61–63.

values—it gives them existence. I do not mean to say that it gives existence to the acts and the things which are exchanged, but it imparts to their existence the notion of *value*.

Now, when two men transfer to each other their present efforts, or make over mutually the results of their anterior efforts, they *serve* each other; they render each other reciprocal *service*.

I say then, VALUE IS THE RELATION OF TWO SERVICES EXCHANGED.[3]

The materials and forces given by God to man gratuitously, at the beginning, have continued gratuitous, and are and must continue to be so through all our transactions; for in the estimates and appreciations to which exchange gives rise, the *equivalents* are *human services*, not the *gifts of God*.[4]

As Mr. Cairnes[5] has shown, Bastiat added nothing new in asserting the gratuitousness of the gifts of nature; but he failed to understand that even a gratuitous gift of nature might be limited in supply and thus acquire value; he failed to see that a gratuitous gift might not be in such abundance as to be common to all. Hence, he was in error in insisting that only "that portion of utility which is due to human labour becomes the object of exchange." This theory would not explain why a diamond picked up on the seashore might bear a high price.

[3] Stirling's translation, pp. 107, 108.

[4] *Ibid.*, p. 331.

[5] *Essays*, IX, pp. 327–37.

With Bastiat, however, value depends upon the service rendered, and varies with the magnitude of the service; and all exchange is an "exchange of services." Hitherto, Bastiat has excluded gratuitous gifts of nature from having any influence on value; but by his use of the word "service" he introduces under it all the omitted elements of value other than human effort. The ambiguity, or equivocal meaning of "service," has thus been pointed out by Cairnes as covering up a gross fallacy. But what Bastiat has to say on this point is contained in the following passages:

To make an effort in order to satisfy another's wants is to render him a *service*. If a service is stipulated in return, there is an exchange of *services*. . . . . If the exchange is free, the two services exchanged are *worth each other*. . . . . Less effort implies less service, and less service implies less value.[6] . . . .

I take a walk along the sea-beach, and I find by chance a magnificent diamond. I am thus put in possession of a great *value*. Why? Am I about to confer a great benefit on the human race? Have I devoted myself to a long and laborious work? Neither the one nor the other. Why, then, does this diamond possess so much value? Undoubtedly because the person to whom I transfer it considers that I have rendered him a great *service*,—all the greater that many rich people desire it, and that I alone can render it.[7]

[6] Stirling's translation, pp. 44, 45. [7] *Ibid.*, p. 113.

The reason for a natural gift of nature having value is thus the power of the object to satisfy a widely felt want, coupled with the limitation set by nature to objects possessing this capacity. And yet Bastiat had earlier denied value to gratuitous gifts of nature. Again, while saying he finds value wherever an exchange of services takes place, he also makes the following admission regarding gratuitous gifts of nature:

> Frequently a material substance; sometimes forces furnished *gratuitously* by nature; always human services interchanged, measuring each other, estimating, appreciating, *valuing* one another, and exhibiting simply the result of that valuation—or VALUE.[8]

In connection with the value of land he sets forth his doctrine on this particular point more fully:

> [Land] has value, in fact, because it can be no longer acquired without giving in exchange the equivalent for this labour [the labour expended upon it]. But what I contend for is, that this land, on which its natural productive power had not originally conferred any value, has no value yet in this respect. This natural power, which was gratuitous then, is gratuitous now, and will be always gratuitous. We may say, indeed, that the land has *value*, but when we go to the root of the matter we find, that what possesses value is the human labour which has improved the land, and the capital which has been expended on it.[9]

[8] Stirling's translation, p. 124. [9] *Ibid.*, pp. 249, 250.

Yet, in regard to land on which nature has conferred desirable fertility, he presents the case of a possible objector, and in the paragraph next following he gives his answer:

Everyone [says the objector] who purchases a land estate examines its quality, and pays for it accordingly. If, of two properties which lie alongside of each other, the one consists of a rich alluvium, and the other of barren sand, the first is surely of more value than the second, although both may have absorbed the same capital, and to say truth, the purchaser gives himself no trouble on that score. . . . .

The answer to the objection now under consideration is to be found in the theory of Value explained in the *fifth* chapter of this work [Harmonies]. I there said that value does not essentially imply labour; still less is it necessarily proportionate to labour. I have shown that the foundation of value is not so much the *pains taken* by the person who transfers it as the *pains saved* to the person who receives it; and it is for that reason that I have made it to reside in something which embraces these two elements—in *service*. I have said that a person may render a great service with very little effort, or that with a great effort one may render a very trifling service. The sole result is, that labour does not obtain necessarily a remuneration which is always in proportion to its intensity, in the case either of a man in an isolated condition, or of man in a social state.[10]

This exposition is criticized by Cairnes in that Bastiat selected the term "service" expressly

[10] *Ibid.*, pp. 255, 256.

because its meaning was equivocal; for the latter is shown to hold that value depends upon other conditions than human effort—such as the utility of the object, the limitation of its supply, or the superiority of some agents furnished by nature over others. And here Bastiat falls away from any theory original to himself, and accords more or less with the exposition of value given by many other authors. His purpose in desiring to show that, under a régime of freedom, all exchanges were "services for services," was to make an argument in favor of the essential justice of all that takes place in the industrial world. This, however, could not logically be done by taking refuge under an equivocal term, "service." He tried to make the term connote not only a benefit conferred upon another, but also "a moral judgment on the facts to which it was applied."[11]

It would be well for our purposes to report in further detail the working of Bastiat's theory of service as a regulator of value.[12]

A multitude of circumstances may augment the relative importance of a Service. We find it greater or less, according as it is more or less useful to us—according as a greater or less number of people are disposed to render it to us—according as it exacts from them more or less

[11] Cairnes, *op. cit.*, p. 342.

[12] The gist of it is to be found in Stirling, pp. 106–26.

labour, trouble, skill, time, previous study,—and according as it saves more or less of these to ourselves. Value depends not only on these circumstances, but on the judgment we form of them; for it may happen, and it happens frequently, that we esteem a service very highly because we judge it very useful, while in reality it is hurtful.[13]

If, in laying down the general principle, that Utility is the foundation of Value, you mean that the Service has value because it is useful to him who receives it and pays for it, I allow the truth of what you say. It is a truism implied in the very word *service*.

But we must not confound the utility of the air with the utility of the service [which forces air into a diving bell]. They are two utilities distinct from each other, different in nature, different in kind, which bear no proportion to one another, and have no necessary relation. There are circumstances in which, with very slight exertion, by rendering a very small service, or saving very little trouble, I may bring within the reach of another an article of very great intrinsic *utility*.[14]

Nature has so constituted me that I must die if I am deprived of an opportunity, from time to time, of quenching my thirst, and the well is a league from the village. For this reason, I take the trouble every morning to fetch the water of which I have need, for in water I have recognized those *useful* qualities which are calculated to assuage the suffering called thirst. Want, Effort, Satisfaction—we have them all here. I have found Utility—I have not yet found Value.

But, as my neighbour goes also to the fountain, I say to him—"*Save me the pains* of this journey—*render me*

[13] Stirling, *op. cit.*, p. 109. [14] *Ibid.*, p. 111.

the service of bringing me water. During the time you are so occupied, I shall do something for you, I shall teach your child to spell." This arrangement suits us both. Here is an exchange of two services and we are enabled to pronounce that one is *worth* the other. The things compared here are two efforts, not two wants and two satisfactions; for by what common standard should we compare the benefit of drinking-water and that of learning to spell.[15]

We may say with propriety that water is *useful*, because it has the property of allaying thirst; and it is the service which *has value*, because it is the subject of a convention previously debated and discussed. So true is this, that if the well is brought nearer, or removed to a greater distance, the Utility of the water remains the same, but its Value is diminished or increased. Why? Because the *service* is less or greater. The *value*, then, is in the *service*, seeing that it is increased or diminished according as the service is increased or diminished.[16]

I give utterance to no paradox when I affirm that Utility and Value, so far from being identical, or even similar, are ideas opposed to one another. Want, Effort, Satisfaction: here we have man regarded in an Economic point of view. The relation of Utility is with Want and Satisfaction. The relation of Value is with Effort. Utility is the Good, which puts an end to the want by the satisfaction. Value is the Evil, for it springs from the obstacle which is interposed between the want and the satisfaction. But for these obstacles, there would have been no Effort, either to make or to exchange; Utility would be infinite, gratuitous, and common, *without*

[15] Sterling, *op. cit.*, p. 112. [16] *Ibid.*, p. 113.

condition, and the notion of Value would never have entered into the world. In consequence of these obstacles, Utility is gratuitous only on condition of Efforts exchanged, which, when compared with each other, give rise to Value. The more these obstacles give way before the liberality of nature and the progress of science, the more does utility approximate to the state of being absolutely common and gratuitous, for the onerous condition, and, consequently, the *value* diminish as the obstacles diminish.[17]

In respect of scarcity, the point on which, according to Cairnes, he lays himself open to criticism, is treated by Bastiat as follows:

According to Senior, of all the circumstances which determine value, rarity is the most decisive. I have no objection to make to that remark, if it is not that the form in which it is made presupposes that value is inherent in things themselves—a hypothesis the very appearance of which I shall always combat. At bottom, the word *rarity*, as applied to the subject we are now discussing, expresses in a concise manner this idea, that, *caeteris paribus*, a service has more value in proportion as we have more difficulty in rendering it to ourselves; and that, consequently, a larger equivalent is exacted from us when we demand it from another. Rarity is one of these difficulties. It is one *obstacle* more to be surmounted. The greater it is, the greater remuneration do we award to those who surmount it for us. Rarity gives rise frequently to large remunerations, and this is my reason for refusing to admit with the English Economists that

[17] *Ibid.*, p. 139.

Value is proportional to Labour. We must take into account the parsimony with which nature treats us in certain respects. The word *service* embraces all these ideas and shades of ideas.[18]

[18] Sterling, *op. cit.*, p. 141.

DEFINITIONS

CHAPTER II

DEFINITIONS

§ 1. Wealth is the unconsumed results of the productive efforts of the past still available for consumption or employment as a means of adding to the subsequent well-being of man. Under wealth must also be included lands of superior productivity whose advantages accrue to an individual as a result of a recognition of his property right therein—that is, lands relatively superior to no-rent lands. Since property rights in land, and the advantages which desirable opportunities in production confer upon its possessor, are legally transferable, land enters the economic sphere as having exchange value proportionate to the advantages accruing as a result of such possession and control. Moreover, there should be included under wealth property rights in, and consequent control of, devices for adding to the effectiveness of labor in production; an illustration of which would be a device protected by a patent right.

Exchange value is the ratio of exchange between two or more articles. It should be equitable to both parties to the exchange. In no case is it conceivable that value inheres in a

thing. What value is, is one thing; what causes a commodity to have exchange value, is another thing. The latter is the main object of the present investigation.

§ 2. Utility is the relation existing between the inherent qualities of a thing and a human need to which it can minister. It is especially to be emphasized that utilities should not be confounded with the qualities of concrete objects, or with the objects themselves. In their relations to the external world, human beings have needs or desires, and there arises from unsatisfied desires what may be defined as discomfort, or disutility.

Utility is the relation of a means to an end. It is not inherent in a thing. It is not constant, but fleeting and transitory; on the other hand, the constituent properties of a thing are not only inherent but constant. The utility or usefulness of a thing as a means of ministering to the well-being of man as an end is neither inherent nor constant. On the contrary, it is wholly contingent and accidental; contingent, not upon man alone, but upon the accident of a subjective condition or need, susceptible of change for the better, to which it can minister. In its last analysis, utility is contingent upon a relation of

usefulness between an objective thing, on the one hand—as, for example, a glass of drinking-water—and, on the other hand, a subjective condition of man, as, for example, thirst. All else being equal, the utility of a product increases or diminishes with the greater or less gravity of the need to which it ministers. Since utility is distinct from the inherent properties of a product, it is incorrect to assert that utility inheres in that product. Although utility as has been said, is related to the inherent properties of a product, it is no less related to a man's subjective condition susceptible of change for the better—that is, to a need, to which the qualities of the product can minister. Hereafter, there can be no further need of insisting that utility cannot inhere in the product. The capacity for usefulness of a bucket of water, it is true, is contingent upon its properties and qualities being what they are. But capacity for usefulness is not usefulness, any more than capacity to run is running; in brief, it is clear that but for man there could be no utility. Utility can result only from the use of a product of which utility is predicated as a means of ministering to a specific human need.

Utility is the relation of a means to an end. That is, it is the relation which the means employed bear to the end sought. Regardless of

the objective means employed, the sole purpose sought for is augmented well-being. To consider this well-being as greater or less is to consider it quantitatively. As is the quantitative augmentation of well-being secured through the employment, or use, of a thing, such is the quantitative utility of that thing. There is no other measure than augmented well-being of the quantitative utility of a thing. There need be no other measure to render intelligible to us concepts of quantitative usefulness or utility.

§ 3. In viewing man's relation to the objective world outside of him, one is chiefly impressed by the fact that his ever-recurring needs can be ministered to ordinarily only by overcoming the obstacles, or hindrances, interposed by the existing conditions of his environment. This process can be accomplished with gain only on condition that his capacity is such as to enable him to overcome these obstacles and thus to obtain the concrete articles which serve his needs. In the main, satisfactions are obtained only by the process of overcoming the resistances of nature. Viewed from the position of the one wishing to improve his well-being, hindrance is objective. Articles, or satisfactions, freely obtainable without objective hindrance have no

exchange value, and do not enter into the economic sphere.

Effort is the correlative of objective hindrance. Cost is the subjective impairment of well-being that results from that personal effort, which is required in overcoming the objective hindrances of nature. While hindrance is objective, cost is subjective. Cost is measured by the discomfort arising from the effort involved in overcoming the necessary hindrance.

§ 4. Production involves such artificial changes in objective conditions as results in supplying a means of promoting the well-being of man. In brief, to produce is to render hindrance-bearing products available for use; that is, for consumption, or exchange.

The four generally recognized factors in production are as follows:

1. Land, or the gifts of nature, which, through the rights of control granted by society, confer upon the possessor opportunities in production.

2. Labor, or physical energy, applied to the task of surmounting the objective hindrances attendant upon the acquisition of a commodity.

3. Capital, or instrumentalities, whose employment so adds to the effectiveness of labor in production as to reduce cost-impairment.

4. Directive intelligence, devoted to finding the most favorable opportunities for production, to devising the most effective instruments for use as aids to labor, and to directing effectively the joint operations of labor and capital.

§ 5. Gain is the excess of well-being obtained by the use or consumption of a product over and above the cost-impairment attendant upon producing it. All economic activity has for its object this gain. Loss is the converse of gain; that is, when the happiness sacrificed in personal cost exceeds that obtained through the acquisition and consumption of the article, then loss is felt. Loss and gain arise directly from a situation in which men are occupied in producing articles which satisfy their own wants.

When men are engaged in exchanging articles with each other, Gain takes a slightly different form, which may be designated as Profit. In its last analysis, Profit arises from the fact that the thing parted with as compensation has been produced, or otherwise acquired, at less cost than would have attended the production of the thing secured through the exchange of services. This disposes of the antiquated fallacy which assumes that the gain of one party to an exchange is obtained only by a loss to the other.

PRODUCTION

CHAPTER III

PRODUCTION

§ 1. Production, as previously expressed, is the result obtained by an application of subjective energy adequate to the task of surmounting the obstacles that hinder artificial changes which add to well-being. In the processes of production we must necessarily make changes in objective conditions; for instance, we must do what is necessary to take ore out of the ground and fashion it into a hammer. Such operations as these result in effective production. It is to be noted, however, that we set out to overcome objective conditions in order to produce a subjective effect upon ourselves. This subjective effect measures the utility of the given articles.

On the other hand, it must be kept in mind that production does not of necessity result from every application of subjective energy designed to secure that end. In the case of effective production, as just described, from the gross augmentation of well-being which we obtain from the consumption of a product there must be subtracted the cost, or impairment of well-being, arising from the application of

subjective energy, or labor, necessary to surmount the objective hindrances. Production, however, would be futile, even if subjective energy were exerted, in case the impairment of well-being, or cost, in the productive process is equal to or greater than the increase of well-being arising from the consumption of the product. That is, in this investigation, it is to be understood that production carries with it some net augmentation of well-being as its result.

§ 2. In order to begin with elementary conditions from which our reasoning will start, it seems best to present an illustration. In the first instance, we will suppose that, living in complete isolation from my fellows, I am wholly dependent upon my own individual efforts to secure the necessaries of life. Thus, in order to secure the bucket of water, whose utility is such that its consumption will avert an anticipated discomfort of thirst during the next twenty-four hours, it is assumed that the water can be obtained from a spring lying one mile distant. The only means by which I can secure the water is by an application of subjective energy adequate to the task of surmounting the objective hindrances that stand

in the way of its acquisition. In short, I must produce it from the spring. Two estimates will be set by me, one against the other. On the one hand, the penalty of fatigue or cost in walking one mile to the spring and carrying back the water will be compared, on the other hand, with the thirst discomfort arising from deprivation of water during the given time. That is, I am brought face to face with alternative discomforts, one of which is inevitable. As an intelligent being free to choose between these alternatives, it is assumed that I will balance them as accurately as possible, the one against the other, to the end that by choosing the one which involves the least degree of discomfort the sum of my well-being, considered as a whole, may be augmented. We will suppose that the discomforts of thirst due to deprivation of the water for the next twenty-four hours, as compared with the cost of obtaining the water from the spring, is as 100 to 10. In brief, the units of cost-discomfort attendant upon producing the water from the spring one mile distant are represented by 10. Thus by balancing the discomfort of thirst attendant upon deprivation of the water, which in my judgment is 100, against the discomforts of fatigue attendant upon producing it from the spring one mile distant, which I have decided is

but 10, it is evident that the anticipated gain or incentive to production will equal 90.

If, now, we assume such changes in environment as will result in placing a greater and greater distance between me and the spring, which is my most available source of supply, we shall find that, as the distance, which is here the chief element in the hindrance encountered, increases, cost-impairment will increase proportionately, until, at last, gain will vanish, and with it the sole incentive to rational activity, or productive effort. Thus, for example, with a spring one mile distant, if the gain would be 90; at two miles, 80; at five miles, 50; at nine miles, 10—we will be justified in concluding it would vanish completely with the spring at ten miles away.

§ 3. So far, in this illustration, we have been concerned with the conditions of a man in an isolated situation. Now, we will change to the case of a man working as a member of society in which he is no longer compelled to rely solely upon his own unaided efforts as a means of acquiring products that can be obtained only by surmounting the hindrances imposed by nature. Here we are met at once with the fact that there are marked variations in the relative capacities of men in surmounting the obstacles

of production. If I avail myself of the services of another I am at once met by the fact that he may have a relatively superior capacity to produce the thing desired by me than he has to produce certain other things needful to him. Therefore, the other might find it to his advantage to produce and supply me with the water upon condition that I will produce and supply him with some article, like a hat, the use of which will add to his well-being. As in our direct dealings with nature there must be a measurable gain as an incentive to productive effort, so in our dealings with our fellow-men there must be an incentive to an exchange of services. It will be assumed that I can provide A with a hat at a cost to myself as compared with a bucket of water of 9 for the hat as against 10 for the water. By so doing I shall gain one unit, which marks the degree in which my capacity to produce the hat exceeds my capacity to produce the water. On the other hand, looking at the matter from the point of A, whose capacities are relatively different from mine for the same purposes, we will suppose that A can produce the water at the cost of 8, while his relatively inferior capacity in producing the hat would make it cost him 12 to overcome the hindrances attendant upon its acquisition.

Although the hat is as essential to my well-being as it is to A, since one hat will meet my needs, it is evident that additional hats will have no utility to me except as a means of making compensation for the service of others in my behalf, as, for example, compensating A for his work in supplying the water. On the other hand, the utility of the hat to A is supposed to have the outside limit of 16, while the outside limit of the utility of the water to me is 100. This illustration is based upon the assumption that the objective obstacles that constitute the hindrance of both the water and the hat that exchanges for it are identical for both A and me, and that the variations in the costs are wholly due to variations in our respective capacities for the work in hand.

§ 4. Reduced to its simplest terms, the production of a hindrance-bearing product needful to a man is to render it available to him for its use or consumption. This being true, every effort that results in rendering needful products more readily available for use or consumption, is effective productive effort, even though it falls short of rendering its product directly and immediately available.

Thus to produce a bucket of water from a

spring one mile distant is to render it available as a means of quenching thirst, at a point in space one mile distant from its source of supply. Since no change whatever has been effected in the properties or qualities of the water, it is evident that the whole process of production has consisted in producing a utility of place. So, also, to produce a hat is to render it available for employment as a covering for the head. The production of a hat, involves processes other than those attendant upon transporting it. Thus, the loose straws must first be gathered—perhaps grown—after which they must be properly assorted, and plaited into such form as will adapt them for employment as a means of adding to the sum of human well-being. If, through error in judgment, it is either too large or too small to be available for the purposes for which it was designed, the effort to produce has been abortive. A condition precedent to producing is the rendering of a product, needful to man, available, or at least more readily available than before, for his particular use or consumption, as a means of promoting his well-being. Though productive processes are widely different in their character, the final test of production is found in the fact that, through effort, needful products have been rendered

available, or more readily available than formerly, for employment as a means of adding to the well-being of man.

Now, upon what basis will the hat and the water be exchanged in the open market? Will it be upon the basis of assumed equivalence in the anticipated utilities of these two products in actual use; or will it be upon the basis of assumed equivalence in the gravities of the objective hindrances surmounted in rendering them available? In other words, will it be upon the basis of equivalence in the utilities of the products; or upon the basis of the utilities of the services, which, by supplying these products, render them available for use or consumption? The question affords its own answer. To assert that the value of product X equals the value of product Y, is but a convenient way of declaring that the utility of the service, that renders one of them available for use or exchange, is the exact equivalent of the service that renders the other article available for like purposes. It is, furthermore, the most convenient way of declaring equivalence in the gravities of the objective hindrances that must be surmounted in order to render these two products available.

UTILITY OF THE SERVICE DISTINGUISHED FROM THE UTILITY OF THE PRODUCT

CHAPTER IV

UTILITY OF THE SERVICE DISTINGUISHED FROM THE UTILITY OF THE PRODUCT

§ 1. In the illustration previously given, and in all practical cases of exchange, it is clear that there is no direct relation between the utilities of the products exchanged and their exchange value. That is, the relative utilities of the two products do not give us the necessary data for an intelligent determination of the equitable ratio of exchange between them. In this connection it may be well to direct attention to the fact that concepts of utility and of disutility—of augmented and of impaired well-being—are but positive and negative terms relative to the same phenomenon, namely, human well-being. Thus a unit of measure, based upon a clearly conceived and specific degree of augmented well-being, will be well adapted for use as a means of giving intelligible expression to concepts of impaired well-being. Referring to our illustration, it is evident that, in regard to my need for water and the means of ministering to it, I find my most specific, clearly defined, and consequently available measure of the water's utility, not in a consideration of the increased well-being that

would result from its use—that is, not from the utility of the commodity—but *in consideration of the specific impairment of well-being that deprivation of it will inflict.* Obviously, the utility of a product is more vague, and less clearly defined, than the impairment of well-being that would result from a deprivation of this product. That is, having estimated the greater or less utility of the water by estimating the specific thirst-discomfort, which deprivation of it will inflict, as 100, the ruling consideration is to be found in a greater or less impairment of well-being that would result from my surmounting the objective-hindrances attendant upon producing it from the spring.

In turning to the case where I am not living in isolation, but in social relations with others, so that exchange of services is possible, the same principles will be found true. We will refer to the illustration in which the water is supplied to me by A. It is evident that he will not supply me with this bucket of water as a free gift. On the contrary, his service as a means of averting the cost-discomfort attendant upon its production by me, will be available only in consideration of the fact that I am prepared to render him an acceptable compensatory service. It is evident that A's service as such

will have a utility for me based solely upon what A is to do for me, separate and apart from the utility which water—the product of his doing—is to me.

Now, upon what basis can I, as an intelligent being, consent to make compensation for this bucket of water secured through the instrumentality of A's service? Can I base it upon the efficacy of the water as a means of averting the specific discomfort of thirst, which has been estimated at 100? Or shall I insist upon basing it solely upon the efficacy of A's service in supplying it, which under the conditions assumed cannot exceed 10? The answer to this inquiry is too obvious to admit of discussion, and furthermore it clearly discloses the absolute necessity of sharply differentiating between the utility of a service that supplies a product and the utility of the product which such service supplies. Moreover, in the conduct of the practical affairs of every-day life only the most obtuse fail to act upon this distinction.

§ 2. The necessity of the distinction between the utility of the service and the utility of the product which such service supplies will appear more clearly when we study the conditions of the exchange of the hat for the water between

A and me. Recognizing A's right to demand a proper compensation for his service in my behalf, it is understood that he will demand of me a return service that involves my producing and supplying him with the hat. Now, under what conditions can I with advantage to myself make the compensation demanded? That is, wherein lies my incentive to this exchange? To determine this, must I first ascertain the degree of the utility of the hat to me, to the end that such utility may be balanced against the utility of the water? And does it follow as a matter of course, that, if I find that the quantitative utility of the water is materially in excess of that of the hat, I shall, regardless of the cost-impairment attendant upon producing the latter, certainly gain by exchanging it for the water? That is, would I gain by the exchange, if it cost me more to produce the hat than it would cost me to produce the water? Evidently not. On the contrary, as a basis for intelligent choice between the alternative courses open to me, I must now determine, not the utility of the hat, but the cost-impairment attendant upon its production, to the end that this impairment of well-being may be balanced against the cost-impairment which A's service in supplying me with the water averts. What is more, unless I

find the cost-impairment attendant upon my production of the water measurably exceeds that attendant upon my production of the hat, there can be no rational incentive to the exchange. Indeed, if I find that the production of the hat demanded by A as compensation for his service in supplying the water, costs me more than the 10 units attendant upon my production of the water, it is evident that loss, and not gain, must result from the exchange. Not only will there be no incentive to make the exchange, but, because of the loss that would follow, there would be an incentive to refrain from making it.

§ 3. A moment's reflection renders it apparent that under normal conditions I can know little or nothing of the intensity of the specific need upon which in its last analysis the greater or less utility of the hat for A depends; while he, in turn, will be equally uninformed as to the intensity of the specific need that limits and determines the greater or less utility of the water as a means of ministering to my thirst. Not only is this true, but each will instinctively resent as unfair, and wholly without warrant in equity, every attempt on the part of the other to base his demand for compensation for his service,

in supplying a thing, upon the gravity of the other's need for that thing.

To make the matter properly clear, it may be necessary to analyze more minutely the elements of this transaction. In the illustration, the outside limit of the water's utility to me was 100; while the disutility or cost-impairment in bringing it from the spring one mile distant is 10. Also it should be borne in mind that I have a need for only one hat. On the side of A, the situation is quite different. We will suppose that the objective-hindrances in obtaining either the water or the hat are to all intents and purposes identical for him and for me; but his capacity to surmount the difficulties of obtaining the water is, relatively speaking, so superior to his capacity to produce the hat as to enable him to produce the water at 8; while it costs him 12 to produce the hat. On the other hand, my capacity to produce the hat is relatively so much superior to my capacity to produce the water that it costs me only 9 to produce the hat, while it costs me 10 to produce the water. We also find here a complete reversal of the relative utilities of the products to A and to me. While my subjective conditions are such as to fix the outside limit of the utility of one bucket of water at 100, its greatest anticipated utility for A is found

in its acceptance by me as compensation for my service in supplying him with the hat, to produce which would have cost him 12. On the other hand, while the highest utility to him of the hat is 16, its highest utility to me, based upon the greatest recognized need for which it will now be necessary to provide, is found in the fact that my service in supplying it will be accepted by him as compensation for his service in supplying me with the bucket of water which would cost me 10.

It may be well to emphasize again the fact that the distance to be traveled and the weight of the burden to be borne—which constitutes the objective hindrances of water—are identical for A and for me. So, too, the objective hindrances arising from collecting material, weaving or manufacturing a hat are supposed to be identical for both. On this supposition, that the objective difficulties are the same to both of us, it is a self-evident proposition that variations in the cost-impairment to A and to me of obtaining the water, or in the cost-impairment to A and to me of obtaining the hat, must be due to equally marked variations in our respective capacities for the work in hand.

Under these circumstances, we have the conditions favorable to an economic exchange between the producer of the water and the producer

of the hat; that is, the exchange will be profitable to both parties to the transaction. In this instance, as, for that matter, in every other, profit arises not from the fact that the product required by each has a utility in excess of the utility of the product parted with, but simply and solely from the fact that each can produce and supply the other with the thing parted with at a cost-impairment less than that at which he can produce and supply himself with the thing acquired through the exchange. Thus each has secured the product which is the immediate object of his desire at less of cost-impairment than would have attended its acquisition had he surmounted the hindrances incident to its production by his own direct efforts. Indeed, it should be self-evident that unless he can do this, there can be for him no profit; and, without the profit, there can be no rational incentive to exchange. In short, profit equals the diminution of cost-impairment that results from exchange of service for service in supplying products. In other words, as is the diminution of cost-impairment attendant upon producing the thing parted with, in comparison with the greater cost-impairment attendant upon producing the thing acquired, such is the profit which becomes an incentive to an exchange.

It should be observed, also, that the profit which by right falls to the share of each party to an exchange is in no way affected or contingent upon the profit falling to the share of the other; that is, one party does not obtain a profit at the expense of the other. I secure a profit of 1, not at the expense of A, but simply because my capacity to produce the hat supplied to him is relatively superior to my capacity to produce the water. This arises from the fact that the hat is produced by me at a cost of 9, while the water is produced by me only at a cost of 10. On the other hand, A secures by the exchange a profit of 4, not at my expense, but solely because he can produce and supply the water at a cost of 8, while to produce the hat would have cost him 12.

§ 4. If, as a result of the above analysis, I supply A with a hat in exchange for his service in supplying me with water, the result is popularly expressed by saying, "the value of the water *is* the hat;" or, conversely, "the value of the hat *is* the water." We have here a statement of exact equivalence in what is termed the value of these two products, and one which will meet with the instant and unqualified approval of all who are made familiar with the conditions

and terms of the transaction. We are, therefore, obliged to conclude that it is based upon some easily recognized and well-established data.

At this point, however, warning must again be given that this equivalence in value is not based upon the equivalence of the respective utilities of the two articles. It is to be borne in mind that value, of course, is inseparably associated in thought with utility.[1] Since, then, utility is habitually associated with products, and since "value cannot be disassociated from utility," what wonder is it that some writers instinctively turn to the recognized utility of the products exchanged as the true and only cause of this proclaimed equivalence in their respective values?

But we do not find any agreement or coincidence of quantitative utility in the two products of our illustration—or, for that

[1] "Instead of finding that utility is something necessary indeed to the existence of value, but not included in its proper meaning—something which we must drop out of mind as we become very scientific—we shall find that utility and value are inseparably bound in thought and that the attempt to disassociate them betrays a failure on the part of the scientist to follow with his analysis the subtle mental processes that have determined the popular mode of expression and given the public a truer notion of value than science has yet attained."—J. B. Clark, *Philosophy of Wealth*, p. 75.

matter, any such approach thereto, as to warrant an assumption of equivalence in their values based upon an equivalence in their utilities. Thus while the water's utility to me, as a means of quenching thirst, is 100, the utility of the hat for me is limited to its employment as a means of making compensation for a service that relieves me of a cost-impairment of 10. In the case of A, the conditions are reversed; while the utility of the hat to him, as an article of apparel, is 16—or three-fifths greater, considered as a factor in his well-being, than the need upon which its utility for me is based, the absence of a need for the water, other than as a means of compensating me for my service in supplying him with the hat (thereby averting a cost-impairment of 12), limits its utility for him to its compensatory power, or utility in exchange.

Whatever may be the qualities of the product, or the capacity of the product to satisfy human need, utility is not manifested except by the actual employment of these qualities to satisfy some want. In attempting to measure the utility of a product, it must be remembered that the utility will increase or diminish with the greater or less need to which it ministers. That is, the utility of the product increases or diminishes with the

greater or less augmentation of well-being that results from the use of the product. There is no other conceivable measure than this of a product's utility.

THE SUBJECTIVE AND OBJECTIVE ELEMENTS IN PRODUCTION

CHAPTER V

THE SUBJECTIVE AND OBJECTIVE ELEMENTS IN PRODUCTION

§ 1. Unable to find in the assumed utility of the products exchanged any warrant for that declared equivalence in their exchange value, which is the acknowledged basis of every equitable exchange, we next turn to the consideration of the objective hindrances to be overcome in producing them; and also to a consideration of the cost involved in such operations. These objective hindrances to be overcome, and the personal costs necessarily involved in surmounting them, are of first importance. With regard to cost, the purely personal factor—which is an inevitable consequence attendant upon the application of subjective energy, or labor, designed to surmount the obstacles that stand in the way of our acquisition of useful products—it is to be observed that it varies no less certainly, if indeed less radically, because of variations in the subjective capacity of the individual, than because of variations in the character and gravity of the objective hindrance that renders labor necessary. It will be our purpose, however, to reserve the discussion of variations in personal capacity to

the next chapter; and, for the present, we shall confine our attention to a consideration of objective hindrance as a factor in exchange value.

§ 2. It is hardly necessary to point out that the obstacles and hindrances encountered by man in his efforts to effect changes in objective conditions which will add to the sum of his subsequent well-being are to him always objective. In nature, the potentialities of hindrance are found in the laws, forces, and tendencies that, working ever in a given direction, operate to resist artificial changes in an existing order of things—as distinguished from the changes which, without human intervention, take place in the natural order of things. So, likewise, in considering the hindrances encountered in our efforts to minister to our economic needs through an exchange, we find the potentialities of economic hindrance in every surmountable law, force, tendency, established rule, or custom that, either in nature or in society, operates to hinder changes in objective conditions, or in man's relation to them, which, if effected, would add to the sum of his well-being.

Clearly, there is but one means by which nature's hindrance can be surmounted, and that lies in an application of subjective energy

adequate in quantity—intensity multiplied by duration—and in efficiency, that is, in intelligent guidance or direction in surmounting the forces that operate to resist the artificial changes involved in production. Only in this manner can we acquire the product—such, for example, as the bucket of water—which, as the immediate and direct result of an application of productive energy designed to effect changes in objective conditions, affords indisputable evidence of production: that is, production, considered purely as an objective phenomenon, and without reference to its bearing upon human well-being, which, as has been seen, is its final test.

Owing to our finite limitations, every expenditure of subjective energy—mental or physical, it matters not—the purpose and aim of which is to secure artificial changes in an existing order of things for our subsequent well-being, carries with it a penalty of fatigue, exhaustion, or other form of cost-impairment proportionate to the relation that exists at the time between the objective hindrance to be surmounted, and our individual capacity to surmount it. Consequently, as a necessary attendant upon every successful effort to secure artificial changes in the conditions of our environment that will add to the sum of our subsequent well-being, there

follows a twofold result, one positive and the other negative—that is, one making for, and the other against, augmented well-being. First, there will be the inevitable impairment of well-being that, as cost, necessarily results as a consequence of every engagement between the objective forces that hinder, and the subjective forces that surmount, them. Second, there should be the sought-for artificial change in objective conditions, or in our relations to them, which, in so far as they make for or contribute to the sum of our well-being, but no farther, constitute what may be termed economic product when considered as a gross result.

It must be apparent that production, even as a gross result, does not follow as a necessary consequence from every application of subjective energy, which, being designed to surmount hindrance, imposes cost. Indeed, production of this sort is in no degree less contingent upon the quality—effectiveness due to intelligent guidance or direction—than upon the quantity of energy applied. Lacking in either quantity or quality, the effort is abortive; and we have only cost as the result. Inasmuch as quantity of energy is more easily discerned than quality of energy—and consequently is more easily and definitely measured—the former is usually re-

garded as having a more direct bearing than the latter upon cost. As a matter of fact, the latter is, and has been, a factor of the greatest importance in so adding to the effectiveness of labor as to reduce cost.

Furthermore, when we come to consider production not as purely objective—that is, the mere result of artificial changes in objective conditions—but with reference to the subjective effect which these changes are designedly adapted to secure, it is evident that we must first deduct from the gross augmentation of well-being arising from the consumption of a product, the impairment of well-being which, as cost, is the direct result of every application of subjective energy or labor designed to surmount economic hindrance. That is, if the impairment of well-being, which is due to cost, equals the increase of well-being due to the use or consumption of the product, there is no production in the true sense of the term; because there is no net augmentation of well-being as the result of the operation.

§ 3. It should be observed that, in our main thesis, we are engaged in an effort to ascertain the true basis for the unqualified declaration of equivalence in the values of the two products

exchanged in our previous illustration, the water and the hat. This equivalence in value, I have tried to make clear, is wholly due to equivalence in the utilities of the two services rendered. And these services have equivalent utilities only when, and only because, they surmount equivalent hindrances.

When we turn to a consideration of the obstacles to the acquisition of the water and the hat, we are confronted by the absence of a unit or a standard, other than the purely accidental and personal relation of individual cost for measuring and comparing them. Let us suppose that the distance to the spring and the weight of the burden to be borne, which are here the prime, and let us assume, the sole factors in the objective hindrances encountered in the production of the water, are the same for A that they are for me. Let us also assume that—although the objective obstacles encountered in obtaining the water are the same for both, as just said—notwithstanding this fact there may be marked variations in the individual cost to him and to me. Likewise, though the character of the hindrances to be surmounted in the production of the hat may not have been revealed, and may or may not involve distance or weight, we may safely suppose—since normal conditions,

involving free competiton, or free access to the most available source of supply are assumed—that the hindrances encountered, considered as purely objective phenomena, are identical for both. But this being established, how, in the absence of a unit or standard equally applicable to the hindrances encountered in the production of the water, on the one hand, and the hindrances encountered in the production of the hat, on the other, can we intelligently determine the relation between them?

In order to secure a satisfactory unit, it is a self-evident proposition that the unit or standard for the measurement of objective phenomena must have something in common with the phenomena measured. This, of course, is to be admitted. Then, also, it is apparent that the hindrances to acquisition of the water and the hat are different in kind: in the case of water they involve distance and the carrying of weight, while in the case of the hat distance or weight might not enter at all. There is thus absent, as yet, any impersonal or objective standard by which we may make an intelligent comparison between these hindrances. How, in fact, a practical comparison is arrived at by the use of money will be discussed in chapter xii.

COST A DOUBLE VARIABLE

CHAPTER VI

COST A DOUBLE VARIABLE

§ 1. By service is meant the doing for another something that will add to his well-being. By cost is meant the impairment of well-being caused by the subjective effort incident to surmounting the hindrance. The measure of A's service to me is found, not at all in the cost-impairment to him, but in the amount of cost-impairment to me which he has averted by providing me with an article, instead of obliging me to produce it myself. Thus, service is a means of averting cost; and the utility of the service is measured by the amount of cost-impairment it averts. The value of the service to me in providing me with a bucket of water—that is, what I would give for the water—is directly affected by the cost-impairment averted by him who brings the water. Thus the value of this service will be influenced by everything which touches this cost-impairment to me: either (1) anything which would change the objective hindrances in obtaining water; or, (2) anything which would affect my personal capacity in overcoming the hindrances in getting water.

§ 2. The two correlative terms, hindrance and cost, however, may each vary, and thus affect the value of the service. Not only does cost vary directly with the gravities of the objective hindrances encountered, but it will at one and the same time vary in inverse ratio with the productive capacities of every individual who surmounts them. Cost-impairment, other things being constant, will vary inversely with personal capacities in overcoming a given hindrance. Or, if personal capacities are supposed constant cost-impairment will vary directly with the increase or decrease in the objective hindrances.

Supposing the personal capacity to be constant, cost will increase or decrease only with the gravity of the hindrance encountered and surmounted. On the other hand, supposing the hindrance to be surmounted to be constant, the personal cost will increase as the capacity of the individual who surmounts it decreases, and decrease as his capacity increases. That is to say, cost which, with a given capacity, will vary directly with the gravity of the resistance encountered, will vary inversely with the capacity of the individual who by the exercise of this capacity surmounts it. Therefore, because cost, which is the subjective effect of labor, increases and decreases in direct ratio with the hindrances

surmounted, and in inverse ratio with the capacity of the individual who surmounts it, it follows that to each individual cost indicates and measures the relation which his capacity to surmount a given hindrance bears to the hindrance surmounted. In brief, cost is no less the measure of the incapacity—or lack of perfect capacity—of the individual than of the gravity of an economic hindrance surmounted.

It seems apparent, therefore, that, though the relation between hindrance and cost is so intimate that the mere mention of one suggests the other, they are by no means so intimately associated as cause and effect. While it is true that without hindrance there would be no cost, the converse of this is not true; since the mere fact of hindrance (that is, potential resistance) to be overcome in order to secure changes in objective conditions imposes no cost-impairment. Thus in the present instance, the distance to the spring and the weight of the bucket of water which it is here assumed are the sole factors of hindrance encountered in its production seem to lie in the environment and to exist, so to speak, in the very nature of objective conditions, or in my relation to them. They exist, not only separate and apart from my needs, separate from my capacity to minister to them, and, for that matter,

also, separate from any inclination or incentive on my part to employ my capacity to produce it.

The impairment of well-being that constitutes cost, however, does not appear—indeed, cannot appear—until by an application of subjective energy (of effort or labor) I engage in the task of surmounting the obstacles that constitute economic hindrances. Thus cost is the immediate and direct result, not of the objective forces that may operate to hinder changes in an existing order of things—though without such hindrance there could be no cost—but of an actual expenditure of subjective energy in the task of surmounting such hindrances; that is, it is the direct effect, not of the difficulty arising from the hindrances, but of effort. The hindrance renders labor necessary; it is labor that imposes cost.

Under the supposition that personal capacities are constant, then cost-impairment to any producer would be directly proportional to the objective hindrance to be overcome. On this assumption, the theory of value would be very simple and brief, to wit: an increase or decrease of objective hindrance would increase or decrease the cost-impairment I would have to undergo if I myself had to produce the article; according to the changes in hindrance, A, who

supplies me with the article, does me a proportionally greater or less service; the value of the service is greater or less according to the cost-impairment averted; hence, the exchange value of the article to me is greater or less, compared with other things whose objective hindrance has remained unchanged.

As a matter of fact, however, the case is not so simple, solely because personal capacities are not constant. Not only are there differences in individuals in this respect, but there are differences for the same individual at different times. That is, hindrances being constant, the cost must vary with the individual capacity in production. Thus, we are led to the conclusion that there is no necessary quantitative relation between the hindrances surmounted and the cost. For instance, if the hat and the water exchange freely one for the other on a basis of equivalence, this equivalence could not have been based on the equivalence of cost, since in our illustration the hindrance remaining constant to both A and me, the cost of the hat and water varies. In the supposition it will be remembered that the hindrance to be surmounted in getting the water was the same for both of us, and likewise the hindrance attendant upon weaving straw into a hat was the same for both of us;

but it was assumed that the capacity of A to produce the water varied from his capacity to produce the hat.

The utility of A's service in supplying me with the water is directly contingent upon the cost-impairment which his service in supplying the water has rendered it unnecessary for me to undergo. As it would have cost me 10 to produce it, and A's service relieves me of the necessity of so doing, it must follow that his service in supplying the water will have a utility to me of 10. As a means, however, of averting thirst, the water has a utility to me of 100. Thus, A's service in supplying me with the water has a utility of 10, considered as a means of averting the cost-impairment its production by me would certainly have inflicted.

§ 3. Cost, as we have shown, is intimately related to personal capacity. Cost results from, and is no less the direct effect of, finite limitations in the application of subjective energy to the task of surmounting a hindrance, than from the gravity of the objective hindrance that renders this application of energy necessary. Hence it would seem no less illogical to treat cost as the immediate and direct effect of these limitations in our capacity than to treat it

solely as the effect of the hindrances that render it necessary.

§ 4. We have thus far assumed, and very properly, that the incentive to the exchange of the water and the hat between A and me had been found in the net augmentation of well-being, which, as profit, has fallen to the share of each as an immediate and direct result of this exchange of a service that supplies one of these products for a service that supplies the other. Recurring to our illustration, although A's profit is fourfold greater than mine and seemingly a factor of the first importance in fixing the terms of an exchange that shall be equitable and just to both parties, it has not been, and, it will be seen, cannot by right be, taken into consideration.

This is due to the fact that profit—which, as has been shown, has its origin and limitation in variations in cost, due to variations in individual capacity to surmount the hindrances of the two products exchanged—is no less an evidence of relatively inferior capacity in the production of the thing acquired, than of relatively superior capacity in the production of the thing parted with. Thus, in our illustration, we find that A's profit of 4 arises from the fact that, while his

capacity to obtain the water enables him to do so at a cost of but 8, his capacity to produce the hat is relatively so much lower that it cost him one-half more, or 12, to produce it. This profit, it should be observed, would be the same had we assumed that while it cost A 16 to produce the water it would have cost him 20 to produce the hat. The figures employed are not important; what is important is that there should be differences in the comparative capacity to produce the two articles. If, in the last supposition, it cost him 4 more to produce the hat than it did the water his profit would necessarily be 4.

Whether the apparently excessive profit falling to the share of A arises from a relatively high capacity in the production of the water, or from a comparatively low capacity in the production of the hat, is a matter that does not concern me. Indeed, as has been seen, his profit is in no way contingent upon the relation which his capacity bears to mine; but solely upon the relation which his capacity to surmount the hindrance of the thing parted with bears to his capacity to surmount the hindrance of the thing acquired through the exchange; and as this variation in his capacity is great his profit is great, without in the slightest degree affecting my own interests. Since profit represents only the difference in

individual cost attendant upon surmounting these two hindrances, it is evident that relatively inferior capacity in the production of the thing acquired is a no less fruitful source of profit than relatively superior capacity in the production of the thing parted with.

VALUE OF SERVICE DIRECTLY AFFECTED BY VARIATIONS IN HINDRANCE

VALUE OF SERVICE DIRECTLY AFFECTED BY VARIATIONS IN HINDRANCE

CHAPTER VII

VALUE OF SERVICE DIRECTLY AFFECTED BY VARIATIONS IN HINDRANCE

§ 1. We have seen that cost-impairment is a function of two variables: (1) the variations in personal capacity; and, (2) the variations in objective hindrance; also that cost-impairment averted is a direct measure of the value of a service. Now, however, in investigating the effect of (1), or variations in personal capacity, upon the value of a service, we must in our minds separate cost from variations in cost. As an influence on exchange value cost, of course, remains; but variations of cost, as will be shown, are practically excluded. Variations in cost due to variations in individual capacity, as distinguished from variations in cost due to differences in the gravity of the hindrances encountered, can no more be taken into account as a factor in fixing the terms of an equitable and just exchange, than can the equally personal and no less variable subjective needs that serve as a basis for determining the greater or less utility of the products exchanged.

Consequently we are brought to see that the individual cost that measures and determines

the utility of a service that averts it, no less than the individual need upon which rests the utility of the product supplied, are for obvious reasons unrevealed by either party to the other, when fixing the terms of contemplated exchange that shall be fair and just to both. But even though individual cost should be revealed, as has been assumed in the exchange between A and me of the water for the hat, the fact that the cost varies with personal capacity must lead to its elimination by common consent; since the relation which A's capacity bears to mine, or mine to his, or the capacities of either of us to the capacities of our fellows, affords no reliable data for making a true comparison between the utility of these two services based upon the hindrances they surmount.

Thus we are brought to see that, in negotiations preliminary to an economic exchange· (1) the personal equation traceable to the variations in the capacity of the individual, no less than (2) the variations in the utility of products due to variations in individual needs for them, are instinctively neutralized or otherwise eliminated from consideration, because they afford no common data for fixing the terms of an exchange which shall be fair and just to both parties. In other words, only such data are

considered which, being impersonal and having a direct bearing upon the services under consideration, are mutually acceptable and necessary in determining a quantitative relation between them, considered solely as a means of overcoming the obstacles that constitute economic hindrance. In short, we are brought to the conclusion that in exchange value personal cost and personal utility are negligible; and only those elements are taken into account which are based upon impersonal and objective data.

§ 2. It seems a self-evident proposition that it would be as inequitable for either party to an exchange of services to prey upon the infirmities of the other, as would be the case were one to demand and secure a share in the profit, however great, that equitably falls to the other as a consequence of his relatively inferior capacity in the production of a thing acquired through exchange. And since superior capacity in the production of one of these products, or inferior capacity in the production of the other, is but a way of expressing his relative capacity for both, we have no right to demand a share in the profit accruing to him, as a result of a relatively superior capacity in the production of the thing he parts with. That is, variations in cost arising

from varying capacities, as opposed to variations in cost arising from variations in objective hindrance, can have no effect on exchange value.

In order to point out clearly the manner in which subjective costs are eliminated, we may resort to an enlargement of our previous illustration. We may suppose that A and I are placed on a wide prairie where water is to be found one mile to the east and food one mile to the west. Each goes in the opposite direction; I go for the water and A goes for the food, thus rendering equal services to each other, since the hindrances incurred by each are the same. The services rendered are equal; the cost would make no difference in the exchange if A were lame, and if thereby the personal cost to him were much greater than to me. Clearly, if A were alone, he would himself have to go for the water, no matter what his personal cost-impairment was, and likewise he would himself have to go for the food. My being there with a capacity different from A's in overcoming the same physical obstacles in each case does not in any way change the value of the service rendered by A to me. Moreover, if I refuse to get the water, he could himself obtain it only at a cost proportionate to his own personal sacrifice; and no matter what my capacity is, when I get the water it exchanges for the

food; because if he himself had gone for the water it would have represented the same cost-impairment to him as the getting of the food.

§ 3. In thus weighing and balancing service against service we are enabled to conclude that the hindrances encountered and surmounted in consummating this exchange are quantitative equivalents, judged, not by a consideration of individual cost incurred or averted—which, varying in inverse ratio with the respective capacities of the parties to the exchange, affords no trustworthy ground for intelligent comparison—but by consideration of data from which the personal equation has been eliminated. Therefore we must conclude that the service rendered by each is the equal of that rendered by the other.

Strictly speaking, the only thing we can do for another, the only way in which, by the rendition of a service, we can add to the sum of his well-being, is to supply him with a hindrance-bearing product needful to him. By so doing we relieve him from the cost-impairment that, but for our service, must have attended its acquisition by him. As is the importance of the service which we do for him measured by the hindrance surmounted for him, such is the importance of that which by right we may

demand that he do for us. For example, in supplying me with a bucket of water, A renders me a service. The mere rendition of this service, however, quenches no thirst. If the service did quench the thirst, it is apparent that the water itself might be dispensed with altogether, which is absurd. *All that A does for me, all that he can do for me, consequently all that he is entitled to compensation or credit for doing, is measured by the cost-impairment his service in supplying the water has averted. Obviously, equity demands that in every exchange of product for product the service that supplies one of these products must be the exact equivalent of the service that supplies the other*, to the end that each party to the transaction *may do for the other as much as the other does for him.* And this can be accomplished only by *each surmounting a hindrance that is the exact equivalent of the hindrance surmounted by the other.* Thus the water and the hat exchange for each other, not because the utility of the products themselves is equal, but because the utility of the services that supply them is equal; the utility of the services in this case, as in every equitable exchange, is measured directly by the objective hindrances to be overcome by each party to the transaction in supplying the products. Moreover, it should be ob-

served that the outside limit to the utility of the service is of course the utility of the product. *Thus we are brought to the important conclusion that the only measure of the utility of a service is to be found in the greater or less hindrance to be overcome.* Therefore, to render just compensation for a service that surmounts a given hindrance, a compensatory service that surmounts, an equivalent, but different, hindrance must be rendered. And it might be added that, even if they surmount the same hindrance at different times, there would likewise follow a true and equitable compensation.

§ 4. Thus we reach the conclusion that the exchange in question is based upon that golden rule of equity and justice between man and man upon which, in its last analysis, all rational or economic activity rests, namely: "DO FOR OTHERS AS THEY DO FOR YOU." We shall find that this rule, deduced from a study of equitable exchange, has a wide and general application. If not since the world began, at least since right has succeeded might as a rule of social conduct, it has had instinctive recognition as the dominant factor in fixing the terms of every equitable exchange. Even children at their play instinctively insist upon "turn about" in the perform-

ance of its onerous features. Only those who take their turn in drawing back the empty sled may justly claim a share in the coasting. This basing equality of exchange value on the equality of the services rendered is self-evident, and is so axiomatic as to defy proof; that is, the services are equal where the hindrances necessary to be surmounted are of equivalent gravity.

An altruistic modification of the social law is found in the Golden Rule of the Master: "Do for others as *ye would that* they do for you." This rule, since it seems to suggest a principle of social conduct that is higher and better than, or at least an improvement upon that based upon equal and exact justice for all, is theoretically beautiful; but it is upon careful consideration found to be too vague and indefinite for general use, and if left to the interpretation of those who attach greater importance to individual than to social or racial well-being, would lead to confusion, if not to anarchy. Although in accordance with that conception of human destiny that regards the well-being of the race as superior to individual well-being, it seems to be in direct conflict with the law of the survival of the fittest. If this rule is intended to suggest anything more than "justice tempered with mercy," or charity

—that is, if it is intended as a rule that demands a temporary sacrifice of individual well-being for the benefit of all, to the end that the final result will benefit the individual more than the present sacrifice has inconvenienced him—it is too ethereal and too spiritual for the comprehension of finite and selfish minds. It lacks the definiteness, the exactness, of a formula applicable to the affairs of every-day life.

FREE COMPETITION AND PERSONAL COST

CHAPTER VIII

FREE COMPETITION AND PERSONAL COST

§ 1. As has been said, but for the fact of marked variations in the capacities of the individual, cost will vary in direct ratio to the hindrances to be overcome; that is, it will increase or decrease only as the objective hindrances increase and decrease. Consequently, if variation in capacity could be eliminated from consideration, it is evident that the normal relation between the cost inflicted upon the individual in the production of two products whose hindrances are equivalents would also be that of equivalents. In society as it now exists the actual elimination of variableness of individual capacity, is, as has been said, not only quite out of the question, but, on the whole, apparently undesirable. Hence, we shall find that by insuring to each member of society such perfect freedom of choice as enables him to engage in the production of the products in which his capacity is relatively speaking high, to be exchanged for products in the production of which his capacity is relatively low, the disturbing effect of these variations is so far neutralized as to secure the free exchange of product for product

upon the equitable basis of equivalence in objective hindrances surmounted by each.

Having for his aim the greatest possible well-being for his efforts, an individual could not, under free competition, increase his well-being by producing the other articles already provided him by others. The personal cost-impairment averted is under free competiton the greatest possible. This being so, the only other way in which his cost-impairment can be affected is by changes affecting objective hindrances. Thus variations in personal costs may under free competition be practically neglected.

§ 2. Under normal conditions of free competition—that is, in the absence of that most fruitful, if not the only source of all economic inequity between man and man, the monopolistic conditions—the individual would be at liberty to engage in the production of those products for which in his opinion his capacity, when compared with his capacity to produce other needful products, is highest. By exchanging at the established competitive or market ratio—that is, upon the equitable basis of equivalence in hindrances surmounted—those products for which his capacity is relatively high for those for which his capacity is relatively low, he promotes his

well-being in the highest degree by securing the greatest returns for his efforts, that is, by securing the greatest returns for the cost-impairment endured. And it should be noted that superior capacity may be the result of natural, or personal, or artificial superiority.

That is, under free competition the measure of the utility of the service is to be found in the gravity of the hindrances necessarily surmounted. In short, an equivalence of hindrances surmounted is the only basis of equity in exchange value. To free competition between all who care to engage in the production of any products by surmounting their hindrances—whether these products are for use, or to be exchanged for other products having hindrances—must we look for the establishment and maintenance of an equitable ratio of exchange of service for service in the open market upon a basis of equivalence in the hindrances to be surmounted in supplying the products of exchange. That is, a ratio of exchange which is based upon the fundamental idea of each doing for the other as much—no more, no less—as the other does for him.

Under the supposition of free competition it can be seen more exactly what specifically constitutes profit. Profit is the gain, the advantage,

the augmentation of well-being that accrues to an individual from the exchange of products in the production of which his capacity is relatively high for other products for which his capacity is relatively low, on a basis of equivalence of hindrances established by free competition in the open market. In other words, it is less cost—due to relatively higher capacities—attendant upon producing and supplying the thing parted with than would have attended the production of the thing acquired.

§ 3. We are now in a position to state what should be the conditions of exchange value under the normal conditions of free competition. As is understood, we are in search of a basis of equitable exchange value as between the persons concerned in the exchange. It has already been pointed out that variations in personal cost due to variations in individual capacity should be disregarded in fixing the conditions that constitute an equitable exchange. Inasmuch as variations in individual capacity are facts of society which must be admitted, we shall find that, by insuring to each member of society that perfect freedom of choice that enables him to engage in the production of that for which his capacity is, relatively speaking, high, to be ex-

changed for other products in the production of which his capacity is relatively low, the disturbing effect of these variations in personal capacity is so far neutralized as to secure the free exchange of product for product in the open market upon the equitable basis of an equivalence in the hindrances to be surmounted in producing them. But for the fact of marked variations in the capacities of individuals, cost, as we have seen, would vary in direct ratio with hindrances; that is, it would increase and decrease directly as the obstacles to be overcome increase and decrease. On the other hand, since variations in capacity are to be eliminated from consideration under normal conditions of free competition, it is evident that the normal relation between the hindrances overcome by the individuals in the production of two products would be that of equivalence in gravity. In the normal conditions of free competition in the open market we obtain an equivalence between various elements in our problem. If marked variations in cost due to equally marked variations in the capacities of individuals are eliminated, then the normal relation of competitive cost to competitive cost must be that of equivalence. Obviously, we have then arrived at the conclusion that under normal conditions of free com-

petition equivalence in the hindrances of the products exchanged is absolutely essential to equity. Moreover, this relation of equivalence in value, based upon equivalence in the hindrances surmounted, must be the normal relation between all goods in every exchange of product for product in the open market.

Furthermore, the relation of equivalence in the market prices of the products exchanged is based upon equivalence in the objective hindrances necessary to be surmounted in order to produce them. The competitive price of a product in the open market is contingent upon the gravity of the maximum hindrance which it will be necessary to surmount, in order to meet the demand of the market at any given rate. If the demand is such as to necessitate surmounting a greater hindrance in order to meet it, the market price will increase proportionately.

§ 4. After the study of normal or competitive conditions of exchange—conditions from which variations in individual capacity have been eliminated—we may now proceed to discuss further the position of groups of persons who may be regarded as competitive groups. By way of illustration, let us assume that, in a

community where certain products, Y and Z, can be obtained only by surmounting some hindrance, they are articles of daily use or consumption, and that they are freely exchangeable one for the other in the open market, on the basis of equivalence in the hindrances to be surmounted in their production. That is to say, anyone who cares to do so may, by the rendition of a service that supplies another with one of these products, secure a return or compensatory service that supplies him with the other. First, to insure the continuance of this condition it will be necessary to assume that there is, on the one hand, a sufficiently numerous group, the capacity of whose members in surmounting the hindrance attendant upon the production of Y is relatively so much superior to their capacity to surmount the hindrance attendant upon the production of Z that the cost-impairment attendant thereon is enough less to afford a sufficient incentive for profit to induce the exchange of a service that supplies the former in consideration of a return service that supplies the latter. Second, we must, on the other hand, assume the existence of a sufficiently numerous group, the capacities of whose members are at such variance with the capacities of the preceding group, that they can

surmount the difficulty of attainment of Z at so much less of cost-impairment than they can surmount the difficulties of attainment of Y, that they profit by every exchange of service that supplies the former, in consideration of a compensatory service that supplies them with the latter. In addition, it is probable that there will be another group in existence the capacity of whose members is such that they can surmount the hindrances of one of these products at the same cost-impairment as that attendant upon surmounting the hindrances of the other.

The fact of equivalence in the relative capacities of each member of this third group to overcome these two different, but competitively equivalent, hindrances at the same or equivalent costs, renders it a matter of indifference to them which one they surmount. Thus it operates to prevent their joining either of the two competitive groups. This fact of equivalence, however, will not operate to prevent their producing either or both of these products for their own use or consumption. Likewise, it will not operate to prevent this third group from producing one or both of these products, indifferently, to be given in exchange for other needful products; provided, of course, that their capacity to overcome the hindrances in producing

these two products is, relatively speaking, so much higher than their capacity to produce other products they may wish to acquire, that the profit will be sufficient to induce production and exchange.

Though the absence of profit incentive will deter the members of this third group from engaging in the production of the products, Y or Z, to be exchanged for the other, it is apparent that the existence of the third group will be a factor of importance, proportionate to its numerical strength, in the maintenance of the prevailing relation of equivalence in the market prices of these two products; since any material change in the ratio of exchange between these products not warranted by changes in the objective conditions that affect their hindrances, must, by affording them a profit, operate to transfer them from the non-competitive to the competitive group.

§ 5. In passing, it may be well to direct attention to the fact that it would be erroneous to assume that, because the capacities of any given member of this normal group are such that the cost attendant upon surmounting one of these hindrances, is the same as that attendant upon surmounting the other, that there will be

any such approach to parity between his capacities and the capacities of other members of the same group that the cost-impairment will be the same for him that it is to them. Indeed, it might well happen that there would be such radical divergences in the respective capacities of the indivdiual members of this normal group that the cost-impairment inflicted upon one of them in surmounting either and consequently both of these hindrances would be two-, five-, and even tenfold greater than that inflicted upon some other member of this same group in surmounting the same hindrance or hindrances. The only point to be kept in mind is that—no matter if one member is tenfold as competent as another member of this third group—this one member's capacity is equally effective merely as regards the production of Y and Z.

That there would be equally marked differences in the capacities—and consequent costs—for the members of the group who find profit in the production of Y to be exchanged for Z and in the capacities of the members of the group profiting by Z to be exchanged for Y, is also apparent. As a consequence of this marked variation in the capacity of one member of a given group, when compared with the capacity

of some other member of the same group, it is evident that there can be no approach to uniformity in the profit accruing to one member when compared to that accruing to another, in effecting like exchanges.

This being true, it is evident that, paradoxical as it may seem, the profit accruing to him whose capacity to produce the thing parted with is lower than that of any other member of the group, may, owing to his relatively greater incapacity to produce the thing acquired through exchange, reap a much greater profit from the exchange than other members of the group. Thus it is a matter of little consequence how widely the capacity of a given member of a competitive group may differ from what may be termed the general or average capacity of the group; since his profit is wholly contingent upon the degree in which his capacity to produce the thing parted with exceeds his capacity to produce the thing acquired, through the exchange of service for service. So long as his capacity to produce the former greatly exceeds his capacity to produce the latter, he will continue to profit greatly by every exchange, even though his capacity to produce the product for which his capacity is greatest is greatly below the average.

Hence, it appears that, through free and open competition between those who for the profit that by right accrues to them as a result of their ability to exchange a product, in the production of which their capacity is relatively high, for one in the production of which their capacity is relatively low, the ratio of exchange between the products involved in the transaction is established and maintained upon the only equitable basis—that of competitive equivalence in the hindrances to be surmounted in their production. In brief, we are led to the conclusion that it is through free competition alone that the market ratio of exchange between two given products is maintained upon the equitable basis of each party to the transaction doing for the other as much as the other does for him.

LAW OF EXCHANGE VALUE

CHAPTER IX

LAW OF EXCHANGE VALUE

§ 1. In the exchange of the water for the hat we found an exact equivalence in what is termed "the value" of these two products—meaning thereby equivalence in the hindrance each service surmounts in order to supply them. Moreover, this declaration of equivalence is such that it meets the instant and unqualified assent of all who are familiar with the terms of the transaction; and it seems to imply a more perfect comprehension of the subtleties of value than "science has yet attained."[1]

A undertakes to render me a service involving the surmounting of a specific hindrance in consideration of my rendering him a compensatory service, involving the surmounting of a different, but no less specific, hindrance of like gravity. The fact that there is emphatic declaration of equivalence between the values of the two products, and the fact that there is a common recognition of this equality by all, is conclusive evidence that this parity of value is not traceable to the properties, qualities, or attributes inherent in, and, therefore, common to, both. Least of

[1] J. B. Clark, *Philosophy of Wealth*, p. 75.

all does it suggest any necessary approach to equivalence in the greater or less utilities of these two products, when employed as a means of promoting the well-being of the parties to the transaction through use or consumption.

In our former illustration, it was supposed that the spring from which the water must be taken was one mile distant. We will now assume that this spring is no longer available, and that, as a consequence, the water must now be procured from a spring two miles distant. The moment this fact is established A will withdraw his offer at the former quotation, and instead of agreeing to supply me with a bucket of water for one hat, he will now demand two hats as a compensation for his service in supplying it.

It seems to be a self-evident proposition that the changes in the conditions of the environment, which have resulted in doubling the hindrances necessary to be surmounted in producing and supplying the bucket of water, have in no degree affected the gravity of the need upon which a greater or less utility of the water rests. No more does it add to, or detract from, the efficacy of the water when employed as a means of ministering to thirst. Indeed, regardless of changes in the gravity of hindrances to be surmounted, the impairment of well-being that

would result from deprivation of water for a period of twenty-four hours would still be 100.

§ 2. Though there has been no change either in the inherent qualities of the water or in the gravity of the need it ministers to, and consequently in its utility, it would be absurd were I to insist that there had been no increase in the *utility* or *value* of the service that supplies it, and, consequently, that the demand for increased compensation therefor would be equitable. On the contrary, no sooner am I convinced that the gravity of the hindrance which A must surmount in order to supply me with the water has been doubled, than I am compelled to admit that he is justly entitled to double the compensation for his service in surmounting this hindrance. Hence, if we assume that the hindrance encountered in obtaining a hat remains constant, I am irresistibly compelled to admit that, if one hat was an equitable compensation for A's service in supplying me with one bucket of water when the hindrance was represented by a spring one mile distant, two hats would be required to make equitable compensation for a service that supplies me with one bucket of water from a spring two miles distant. This outcome would be equitable, not because of any increase in the utility

of the product, but simply and solely because the hindrance which he must now surmount being doubled, the utility of his service in supplying the water has doubled. No sooner have we agreed to an exchange of product for product on this basis, or, to be more accurate, of a service that supplies two hats as compensation for a service that supplies one bucket of water when the hindrance has been doubled, than we shall say: "The value of the water is not one, but two hats;" or conversely. And again in this case the declaration of equivalence would meet the approval of everyone of sound mind who is made familiar with existing conditions affecting the hindrances to be surmounted in supplying the two products exchanged.

Likewise, if, owing to further changes in conditions of environment, the most available spring from which to secure my bucket of water is found to lie at a distance of five or ten miles, it is evident that, all else being equal, the hindrance to be surmounted in order to produce and supply a bucket of water, would be five- or ten-fold greater, as the case may be, than that attendant upon supplying it from the spring but one-fifth or one-tenth of these distances. This being true, it is evident that A would be justified in demanding five hats or ten hats, as

the case may be, for his service in surmounting one or the other of these hindrances and for supplying me with the desired bucket of water. He would be justified in his demands, because under normal conditions that which he now does for me—regardless of his individual capacity, which I cannot consider—imposes a five- or tenfold greater cost-impairment. He would be justified, because by the rendering of his service he would relieve me of a cost-impairment five- or tenfold greater than would be the case were the spring one instead of five or ten miles distant. He would be justified, because the hindrance he surmounts for me is the equivalent of the hindrance which he demands that I surmount for him in making compensation for his service. Finally, he is justified, because in demanding five hats or ten hats he is demanding no more *of* me, than he is doing *for* me.

§ 3. Thus far in our illustration changes in the gravity of the hindrance surmounted, and changes in exchange value of the product, have kept even pace each with the other. That is to say, exactly as the obstacle, or hindrance surmounted, has increased or decreased in gravity, so has the utility of the service that surmounts these obstacles for us increased or decreased.

It should be noted here, however, that we must be careful to avoid confusion of terms. Simply because these two things are related to each other we are not warranted in employing them as synonyms. Indeed, as has been seen, these terms suggest not concurring, but antithetical, concepts relating to the same phenomena: the one implies increased well-being, the other implies an impairment of well-being. In other words, while there is suggested by hindrance an obstacle to well-being, there is suggested by the service an augmentation of well-being that results as a consequence of the removal of this obstacle through the instrumentality of the service in one's behalf. *In the proportion that the gravity of the effort or labor necessary to surmount the obstacle is greater or less, in the same proportion is the utility of the service (which, by removing the obstacle, renders such labor by us unnecessary) greater or less.*

The utility of the product supplied, it should be repeated, is not a factor in determining the greater or less utility of a service that overcomes the hindrances incident to its production, except in so far as it may limit the maximum utility of such a service. That is, regardless of a greater or less gravity of the obstacles to be surmounted in supplying the product, the utility of the serv-

ice that supplies it can never exceed the utility of the product supplied. Although the utility of a product may limit what is termed for convenience "the value of a product," the so-called value of a product has no bearing whatever upon the utility of that product. *As is the utility of a service that supplies a produc', such s the so-called value of that product.*

THE INFLUENCE OF CAPITAL

CHAPTER X

THE INFLUENCE OF CAPITAL

§ 1. Let us again return to the consideration of a community whose members are compelled to rely for their daily supply of drinking-water upon springs located at varying distances. It must be assumed that the members of this community are not lacking in intelligence enough to determine upon the desirability of their location according to various considerations affecting their needs for other things than water. Moreover, it is inconceivable to suppose that at any time in the past the members of this community were so lacking in intelligence as to be unable to determine from which spring their needs could be supplied at least cost.

We will first assume that the flow of water from a spring one mile distant is adequate for the needs of all. Such a situation will inevitably lead to the creation of some primary forms of capital which will reduce the difficulty of obtaining the water. For example, to avoid the necessity of a pilgrimage to the spring each time a member of the community feels the pangs of thirst, the intelligence of its members would be taxed to devise a convenient vessel for trans-

porting the water in comparatively large quantities. To meet this need the bucket, as one of the earliest forms of capital—anything that aids labor in production being capital—has been provided as the most available and convenient instrumentality for transporting the water in quantities. As the waters of this spring, and the vessels, or buckets, for transporting it, are at this period freely available to all—there being no monopoly in their use—each will be free to employ them in supplying his daily needs. Though the hindrance to be surmounted is the same for all, it is evident that, since the task incident to producing a bucket of water demands physical strength and endurance, the physically strong will experience less cost-impairment than the weak. As a consequence the weak will devote their energies to the production of articles wherein physical strength is a less important factor—that is, to the production of things in which their capacity is relatively high.

Under ordinary conditions some will be found who are so poorly endowed in physical strength required to surmount the difficulty of obtaining water that the cost to them would be relatively much higher than to others. This fact in itself is not sufficient to insure an exchange of services, since it may well happen that relatively low

capacity in the production of the water, as shown by high cost, would be attended by equally low capacity in the production of all other needful products; or, conversely, relatively high capacity to produce water might be attended by relatively high capacity in other directions. It is only as the capacity of the individual to surmount other but equivalent hindrances is relatively superior to his capacity to surmount the hindrance in obtaining the water, that a person can profit by exchanging the products of his superior capacity in return for water on a basis of equality in hindrances, as established by free competition. That is, differences in capacity such as differences in strength would not be taken into account in establishing an equality of services. In short, the cause of the existence of an exchange of goods in domestic, as well as in international trade, is to be found in the comparative difficulties of attainment, or hindrances.

§ 2. We may now pass from the case of a primitive form of capital, like the bucket, to improved forms of capital. If, by an exercise of superior productive intelligence, some member of the community succeeds in devising and constructing a more effective in-

strument, by the use of which he so adds to the productivity of his labor as to materially reduce the cost-impairment attendant upon the production of the water, it is evident that so long as he retains exclusive control of a property-right in this labor-saving and cost-averting tool, he alone can profit by the increased capacity its employment affords. Although the use of this labor-saving device might so add to his capacity as to render it superior to that of his fellows in the production of the water, the measure of profit accruing to him would be found in the degree in which his capacity to produce the water exceeded his capacity to produce, or otherwise secure, other needful products on a basis of equality of difficulties of attainment. We shall postpone for the present a consideration of the changes in exchange values which will result when this improved tool comes into general use.

We will now assume that this labor-saving tool takes the form of a barrow, or push-cart, and that its employment enables its user to produce two buckets of water at the same cost-impairment that, without its aid, would have attended the production of one; and in addition that he would set a return which would compensate him for the labor of producing the tool and

keeping it in repair. Thus it is that, by the employment of this vehicle as a means of adding to the effectiveness of his labor in transporting—producing—water, his power which, owing to his property-right in the vehicle, now passes as his "personal capacity" to produce it, is doubled. We say "that which passes as his personal capacity," although, as a matter of fact, it is "personal" only in the sense that the capital or tool itself is the product of his own brain and hand. If that be the case, equity demands not only a recognition of his property-right in it, but also of his right to the benefits which its employment confers on the owner and user.

As a consequence of the increase in capacity arising from the employment of this newly devised aid to production, the owner or user will now be able to supply two buckets of water to the members of the community at a cost-impairment that, but for its aid, would have attended his supplying of only one. As a consequence, he will now gain an approximately double profit by supplying those whose capacity to produce a hat, or its equivalent, is superior to their unaided capacity to produce a single bucket of water. That is, we are assuming that, in this instance, the producer of the hat is unaided by any labor-saving device. There-

fore, we are led to conclude that the advantage conferred by the invention and use of this new form of capital in obtaining water so increases his personal capacity that the owner is enabled, through exchanges based on equality of difficulty of attainment, to secure two hats at a cost-impairment heretofore attendant upon securing one.

§ 3. While equity clearly demands a recognition by society of a man's property-right in the labor-saving device suggested by his brain and fashioned by his hands, and consequently also in the increased product and benefits which its employment as an aid to labor affords, it does not as a rule confer upon him a property-right in unpatentable ideas upon which its construction is based. As men are constituted, there are few who absolutely originate; but there are many who can copy and apply a suggestion. A lower order of intelligence is required to copy, than to invent. Inasmuch as the general idea of improved transportation would not prevent the development of various other devices, it will be but a short time before many others are provided with similar labor-saving tools, which also may be called tools which diminish the difficulty of attainment. Since the employ-

ment of this tool doubles the effectiveness of the labor of all who employ it, it is evident that the owner thereof may demand and secure as interest a share in the increased product of the borrower or renter of the tool.

We have seen that, so long as the owner of the improved instrument held a position of monopoly, he could, irrespective of his improved capacity, obtain two hats for the cost-impairment heretofore attendant upon producing one bucket of water. That is, not until a sufficient number of these instrumentalities which increase capacity, or reduce difficulty of attainment, are constructed and employed to meet the demands of all who must procure their water by the old method—or make equitable compensation for the service that supplies it by that method—will free competition for profit between the capitalistic producers compel a readjustment of the ratio of exchange on a basis of approximate equality in the difficulties of attainment of the hat and the water; that is, on a basis of exchange of a hat, not for one but for two buckets of water. We say, on a basis of approximate equality in the difficulties of attainment, for the following reason: The marginal capitalistic producer, who now supplies the demand for two buckets of water at a cost-impairment

no greater than that which, without the aid of his capital, would have attended the production of one, has, as a fact, undergone a certain cost in the construction of the tool; and also he has undergone further cost in maintaining its working efficiency, not to mention constant deterioration and ultimate replacement. Therefore, a rent, or interest-charge, is not only justified, but necessary to prevent loss. Moreover, if compensation can by right be demanded on the ground of benefit conferred by the usefulness of a product, a rent, or interest-charge, is likewise justifiable on the ground of benefits conferred by the tool.

§ 4. Moreover, it is patent that interest is a sum obtained through the increased efficiency of labor in connection with the improved productivity of an employed tool; and that it is not taken at the expense of any form of labor in the community. In order to show that interest is not taken from society, but from the benefits which the employment of capital confers—that is, from that which it actually contributes in the way of increased product—attention may be called to the fact that if the capitalist is deprived of his tool, or forbidden to use it, the following evil results will ensue:

1. There will be an injustice in depriving him of a property-right in the product of his own efforts, and from the advantages attendant upon his doubled capacity, in the exercise of which no one would be wronged.

2. The sum total of human well-being in society would be diminished by the amount which the effectiveness of his tool contributes in overcoming difficulty of attainment.

In a case of the exchange of one hat for two buckets of water, it will be remembered that this result was brought about because all members of the community were at liberty to possess and employ the labor-saving tool which reduces by one-half the cost attendant upon obtaining the water. Therefore, no one would question the equality in difficulty of attainment between one hat and two buckets of water; but all must realize that this marked alteration in the exchange value between the water and the hat is due, not to any reduction or change in the objective hindrances of nature that entered into the difficulties of attainment of these products, but solely to the increase conferred by the use of the tool in the individual capacity of the user, arising from the contribution which it makes to the effectiveness of his labor.

This increase in individual capacity—or re-

duction in difficulty of attainment—due to the employment of capital which, by doubling the effectiveness of labor, reduces cost, places those who are not provided with this instrumentality at such great disadvantage that they are quickly driven from the field where there is open competition. Since each member of the community has equal opportunity to create and possess the improved tools, the possession of capital by the enterprising member of society does no injustice to anyone else. If the possessor of capital drives the non-possessor of capital out of the field, it is due not to any impairment of the capacity of others, not to any infringement upon their rights. On the contrary, it is unmistakably clear that there has been secured a material advance in the well-being of society as a whole. Hence a compulsory return to the old method would indicate such a backward step as should incite indignant protest from every intelligent member of society.

§ 5. Some further points may be added here in explanation of our general thesis. Although capital is primarily treated as an aid to labor in production, yet, whenever, through free competition in the open market, the full measure of the demand for a product is supplied by the

more effective means, the difficulty of attainment itself is regarded as having been reduced. This arises from the following analysis: Since cost-impairment is the final test of the difficulty of attainment to be surmounted; and, since the necessary cost has been reduced by the employment of capital, the highest difficulty of attainment necessary to be overcome in order to furnish the required supply is reduced proportionately.

It may be, however, that those who have the improved instruments may not be able to supply the full market demand; in such a case, the owners of the capital occupy a position of monopoly. So long as the services of some who are unable to secure the improved tool must continue to produce the water by the old method, the old ratio of one hat for each bucket of water must prevail as the ratio of exchange on a basis of equality in difficulty of attainment. And so long as this prevails, those possessing and employing the improved tool will make a double profit—less the expense of maintenance, or interest, if the tool is hired for the purpose. This, again, gives confirmation to the trade axiom, that there cannot at any given time be two prices in the market for any given thing; and that the highest competitive price will be

the prevailing price. Under such conditions it is evident that those who, by the employment of capital as an aid to labor, reduce the cost one-half, will obtain a double profit. They will obtain this profit, however, not at the expense of others, but simply and solely by reason of the double capacity conferred by an improvement in the methods employed by them to surmount the objective hindrances required in the production of the water.

Thus it is that every improvement in method, or in effectiveness of the instrumentalities employed—as measured by reduction in cost—will for a period give large profits to those employing them; but freedom to construct, or otherwise acquire the tool, or to resort to improved methods, will inevitably tend to a restoration of equality in the difficulties of attainment surmounted as a basis for exchanges in the open market. Improvement in method implies a net advance in the well-being of society. It means more products without increased cost, or the same products at less cost. Is this net result, or augmentation in the well-being of society, assignable to a reduction in difficulty of attainment, or in cost? Obviously the former; because personal capacity in overcoming the difficulty of attainment has increased, and cost-impair-

ment has been lowered, due to a reduction in the difficulties of attainment.

In this way, the productive capacity of the community is, as a whole, raised to a higher level. This is the outcome of the productive intelligence and inventive genius of man. To stimulate and promote this inventive genius, patents are in some instances granted, protecting inventors for a period of years in the exclusive right to the production or use of the improvements suggested by their intelligence. As a consequence of this policy, every American from the highest to the lowest, is on the alert to discover some improvement in tools or methods which, by adding to the productivity of labor, would diminish the difficulty of attainment, and, by reducing cost-impairment, afford an increased profit.

Moreover, to continue our illustration, it is more than probable that the constant activity of the human mind will lead some one to improve upon the push-cart which represented the past level of productive capital. This new improvement will further reduce the hindrances to be overcome, and consequently the market ratio of the water; or, what amounts to the same thing, will so increase the productive capacity of those employing the latest improvement, as to

reduce the cost-impairment in obtaining the bucket of water. As a consequence, there will be a further readjustment in the market in order to secure an equitable ratio of exchange corresponding to the changes in the difficulty of obtaining the water, or in the improved methods of surmounting this difficulty, and the difficulty of obtaining the hat, or its equivalent. Thus, for example, the push-cart may be superseded by a vehicle of greater capacity, and the ox or horse may take the place of the man as motive power. As a consequence, not two, but 5 or 10 or 20 buckets of water may now be produced and supplied at a cost-impairment to the producer even less than that originally attendant upon the production of one. The cost-impairment attendant upon providing this instrumentality is measured by the cost of producing and maintaining it in a state of maximum efficiency. That is to say, it is measured by the cost of building the cart, and of securing, training, and keeping the ox in good condition, with ultimate replacement taken for granted.

That the profit accruing to the user would, for the time in which he enjoyed a monopolistic position, be increased in proportion as the capacity of the producer is increased, is apparent. That his profit would in no degree impair the

well-being of others is equally apparent. The old ratio of exchange would prevail until those in possession of the latest method were able to more than supply the demand at the old ratio of two buckets of water for one hat; when this point is reached, the exchange ratio between the water and the hat would conform to this reduced difficulty of attainment, as measured by the reduced cost. That this latest and best form of capital would enable its possessors to drive producers by the older methods out of the field is clear. Although those driven out must regard it as a hardship, society as a whole is a gainer, and to the extent of the net product of the labor of those displaced.

RENT

CHAPTER XI

RENT

§ 1. Hitherto we have assumed that the members of the community have been able to obtain their whole supply of drinking-water from one source situated one mile distant; that is, all the supply has been brought from the nearest and most available spring. We will now assume that, owing to an increase of population, the demand for drinking-water has outrun the supply that can be secured from the spring one mile distant. As a consequence, it now becomes necessary to draw some portion of the supply from the next most available spring, which is two miles distant. Under such conditions we shall have an actual doubling of the hindrance to be surmounted in supplying certain members of this community with their daily supply of drinking-water. That is to say, from this time on some will be compelled to go, not one, but two, miles for their water supply; or, what amounts to substantially the same thing, make double compensation for the service that supplies it.

It is true that the difficulty of attainment to those who are still able to secure their supply

from the spring one mile distant would be unchanged. For those only who are compelled to provide themselves with water from the spring two miles distant would the hindrance be doubled. As a consequence, all would seek to supply their needs from the least distant spring. This being impossible, under the supposition, it is evident that, in the absence of any recognized rule of guidance, the "strong arm" and "big stick" would be laws unto themselves. The weak would be crowded out, the strong would impose upon them even harsher conditions than they themselves had to contend with.

§ 2. Since this resort to force must of necessity lead to that endless strife and bloodshed which we recognize as anarchy, society is compelled to formulate rules and regulations for the protection, not of the strong, who can protect themselves, but of the weak. One very simple rule for governing the conduct of the members of this primitive community, under the conditions assumed, would be that of priority, or "first come, first served." This rule, by the way, is frequently resorted to in an emergency of this sort, even to the present day. Its chief recommendation lies in the fact that it seems to be as fair for one as for another. Under this method,

each member of a group desiring to secure a bucket of water from the nearest spring, will, upon arrival, take his proper place at the end of the waiting-line of would-be producers. It goes without saying that in a comparatively short time the line would be so extended that the last producers would be compelled to wait so long for their proper turn, that it would be a saving of time for them to continue their journey to the spring one mile farther on, where without delay they might secure the desired bucket of water. We are thus brought to see that the element of time forms an important factor in cost-impairment.

While, as a rule, time is a seemingly less important factor than labor, in the productive capacity of the individual, the fact that it is no less arbitrarily and irrevocably limited than intelligence, physical strength, or opportunity itself, renders it apparent that under by no means unusual conditions it is a factor of vital importance in the cost attendant upon production. Attention is called to the fact, that, considered as an indirect result, time is a no less important factor in cost-impairment than fatigue. Even when no physical exertion is involved, the irksomeness of waiting not infrequently occasions cost-impairment. Indirect cost results from inability to

promote well-being through lack of time for surmounting hindrances, or lack of time to recuperate strength. As a consequence, it will inevitably result sooner or later that the cost-impairment attendant upon "waiting," considered as an indirect, no less than as a direct, outcome, will exceed that imposed by surmounting a difficulty of attainment which is twofold greater.

When this point is reached, the difficulty of attainment of the hat remaining constant, the equitable compensation for a service that supplies a bucket of water, regardless of the spring from which it is procured, or "produced," would be, not one, but two hats. This is but one of the many confirmations of the established rule that there cannot at one and the same time be two prices in the same market for the same thing. Moreover, in this connection the important fact to be kept in mind is that the inevitable result of the adoption of this primitive, but measurably equitable, rule of "first come, first served," would in time be to establish substantial equivalence in the hindrances to be surmounted, regardless of the two sources of supply.

§ 3. In the absence of an equitable rule for

the government of economic activity, still another means of establishing justice and of avoiding anarchy might be found in a regulation that provided for a payment into the public treasury, for the benefit of society as a whole, of one hat or its equivalent for the privilege of procuring water from the spring one mile distant, while leavnig the opportunity afforded by the second most available spring untaxed, or free to all. The result would be such an equalizing of conditions that no one would have an advantage over the other in the gravity of the hindrances they must surmount in order to produce a bucket of water. Of course, while those who now produce from the near-by spring would have a difficulty of attainment to surmount only one-half as great as those who produce from a spring twice the distancé, the fact that they would be compelled to submit to a tax of one hat for the privilege would exactly offset the advantage gained.

Since this tax of one hat laid upon all who procure a bucket of water from the spring where the difficulty of attainment is lowest would go to swell the public revenue, which would be expended only for the well-being of all, it is evident that the payment for the advantages of opportunity, which is usually designated "rent,"

should be properly diffused for the well-being of all. This method of taxation, of course, assumes as a condition, the public ownership of such landed opportunities as the spring.

We are thus brought to see the peg upon which Henry George hung his theory of taxation. To obviate or nullify the apparent injustice to society arising from a recognition of a private property-right to the land and its products, Henry George would impose upon the owner a tax—to be disbursed for the benefit of all—equal to the superior advantages which this right affords, when compared with the advantages possessed by, or available to, those whose opportunity to produce is least. Though the difficulties attendant upon pursuing the plan which he has recommended would be great, this fact has no bearing upon the justice or injustice of the proposed solution. While his suggestion, however, seems far from inequitable, it does not seem to have commended itself to the judgment of conservative economic students of the present day. There is a question, however, —which may be interjected here—whether it is just to allow a railway corporation absolute control over anthracite coal deposits.

§ 4. Still another method might be resorted

to in order to avoid the anarchy that, in the absence of a rule designed to harmonize conflicting interests, must otherwise prevail. The establishment of order might be secured by granting to some great warrior, statesman, or ruler, as a reward for his exceeding valor, or wisdom, which had saved the community from overwhelming disaster, the exclusive right of control over the waters of the nearest spring. That is to say, a property-right in the spring, or its waters, might be granted him. This property-right in a superior opportunity, would, from this time on, be accounted a factor in his personal capacity, to be employed as a source of equitable profit, should he choose so to make use of it.

Since but a small portion of the water from this spring would be required to minister to his personal needs, it is evident that he would seek to dispose of the surplus to the best advantage. Quick to recognize the fact that the obstacles to be surmounted in producing the water from the nearest and most available spring would be doubled, he would not be slow to increase his profit by adding one hat to the charge which all must pay who secure their supply from this source. In other words, his property-right in superior opportunities, or advantages, would

enable him to collect a royalty, or "rental," of approximately one hat from all who now make use of it.

Granting the basis of his right to possession, he would apparently have no difficulty in justifying his course, by the argument that, under the admittedly equitable rule of "first come, first served," the market equivalent of one bucket of water would, through free competition in the open market, have been established as that of two hats. And he might claim that, notwithstanding the rental collected by him, the same ratio still prevailed. Hence he could urge that rent was not a sum drawn from labor or from the wages of labor, or, for that matter, from society.

§ 5. Another method of preventing anarchy might be followed by establishing a rule, or custom, under which each member of society could on proper application secure an allotment of land, under the principle of "first come, first served," in the products from which allotment he should have a property-right. Under such a system we may assume that C, being the first to apply, would be granted a property-right in that particular piece or parcel of land upon which the most available spring is situated.

Having a property-right in the land, he would also have a property-right in each bucket of water secured from his spring. Consequently C would be in a position to exact a tribute or rental of, say, one hat for each bucket of water secured by others from his spring.

Without stopping to discuss the advantages or disadvantages to society attendant upon the recognition of a property-right in land, I wish to call especial attention to the fact that, as soon as any material portion of the water actually needed by society must be secured from a source where the difficulty of obtainment is greater than before, a change in the market ratio between water and other products must inevitably result. Under these conditions the ratio will be changed to correspond with the highest difficulty of attainment that must be surmounted in order to supply the whole demand. The difficulty of attainment which is dominant in regulating exchange value in the market is the highest difficulty of attainment which it is necessary to surmount in order to minister to the existing demand; that is, the demand of those who can pay the price with profit.

We may now go one step farther in our illustration and assume that the individual, or group of individuals, has secured a property right in

all the sources of supply of drinking-water within a radius of say five miles from the settlement. The individual, or the group of individuals who have combined their interests, would have it in their power to demand compensation for their service in supplying each bucket of water, on a basis of the difficulty of attainment which others must surmount in order to produce it from the most available spring not yet controlled by the monopoly, which is over five miles distant. In such a case they might stipulate that the price demanded might be five hats for each bucket of water.

In this case, of course, we have presented to us the operation of a monopoly. On the one hand, the monopolistic possessors might contend with perfect truth, that no one is compelled to pay their price, since all are at liberty to produce their own supply by their own efforts; and they might point out that there is an abundance of pure water in the spring six miles distant. On the other hand, society would obviously rebel against the injustice which permits the monopolists of more advantageous sources of supply, under their property-right, to impose onerous conditions of exchange. They may, however, hesitate long before interfering with the sacredness of property-rights upon which modern society rests.

§ 6. The relations of rent to hindrance may now be more fully explained by discussing the way in which improvements operate. The very fact of the existence of the group, or individual, who monopolizes the supply, will set others to devising means of obtaining the water at less cost. Let us now assume that some member of society, more highly endowed with productive intelligence than his fellows, conceives the idea of so improving the method of transporting the water as to reduce the consequent cost attendant thereon to a minimum hitherto unknown.

It is the purpose of the new inventor to lay, to the very heart of the settlement that is to be supplied, a pipe-line from a spring situated high on the hillside six miles distant, which provides an almost inexhaustible supply of the purest water. Indeed, his plan even goes so far as to pipe the water to every house in the community. We will suppose that the owner of the pipe-line agrees to supply the water on a basis of one hat for each bucket of water, in return for the exclusive right to supply water by this means for a term of years. In addition to this, it is assumed that he has secured the right of way across private property on condition that he make suitable compensation for any damage to the property that may result from the use of

this right. Believing that this compensation for the service will be ample to him, he proceeds, after the agreement is made, in conjunction with the aid of others, to instal his plant. Since the source of supply occupies higher ground than the dwellings of the community, of course no artificial means of propulsion are required to deliver it to each dwelling.

An arrangement of this sort would commend itself to the judgment of the representatives of this community, who have authority to pursue any course promising the greatest good to the greatest number. They would justify their entering into the agreement on the ground that by its acceptance the well-being of the community as a whole would be greatly improved. Although the individual or group which, through monopoly, had heretofore been reaping an inequitable profit, would be injured; yet the well-being of the many is of more importance than the well-being of the few, especially if the few have been gaining at the expense of the many. Hence their justification would be complete.

If the expense of installation has not exceeded the estimates made by the owner of the pipeline, the return secured by the charge of one hat for each bucket of water will be ample to com-

pensate him for the use of borrowed capital—another form of cost—properly to maintain the plant's efficiency for the work it has to do; to meet his pay-roll for labor; and still leave him a good margin of profit for the service he renders. Indeed, he may find that his profit is excessive. If, however, he has an exclusive right, competition by others who wish to share in his excessive profit is prevented; while if he has a right for only a limited number of years, he may, until that period expires, secure the full measure of profit due to his intelligence in devising a successful method of reducing the cost of obtaining water.

On the other hand, if his right is secured to him only by the exclusive control over the instrumentality he employs, such as a patent on the pipe-line, some one else may supplant him, if that person can devise some other instrumentality for transporting water which is cheaper. Or, again, if the owner of the pipe-line has no control for a term of years, and if he is dependent solely upon the property-right in his spring, which is his source of supply, then some one may supplant him at a moment's notice, provided that other can obtain water from other sources. Or, again, if a higher order of intelligence should point out that by means of an artesian well an

abundant supply of water at high pressure can be provided at a less cost than that charged by the pipe-line, this other method of securing the supply may be resorted to in the competitive field. Or, finally, even the community as a whole might unite to instal a public utility, if the device for transporting the water were matter of common knowledge. In such a case, society itself might take this improvement in hand and by a general tax secure the capital necessary to instal the system; or, since the improvement would be permanent, perhaps long-time bonds might be issued to secure the capital and thus throw a portion of the expense justly upon future generations.

MONEY

CHAPTER XII

MONEY

§ 1. It has been already fully explained that the gravity of the hindrance which it is necessary to surmount in obtaining an article determines the utility of the service that supplies it; and that the utility of the service is no more or less than an averting of the cost-impairment incident to surmounting this hindrance. Hence, if it is our purpose to arrive at a unit of value, it would be desirable to examine whether we can obtain a unit based on objective hindrances. Without such a unit there would be obvious inconvenience. If we were to try to ascertain the relation which the hindrance to be surmounted in the acquisition of each one of a hundred different products bears to that of all the others, it would involve the determination of an enormous number of separate and distinct ratios. It is evident, therefore, that the task attendant upon determining the ratios between the hindrance not of a hundred, but of thousands of products, would be incalculable.

It is to be observed, also, that these difficulties would be enormously aggravated by frequent

changes in conditions of environment, and by the introduction of more effective capital, either of which might operate to effect changes in the relative gravities of hindrances, and consequently in the ratios of exchange between the products that result from surmounting these hindrances. Consequently, each and every change in the difficulty of attainment would result in a change in the ratio of exchange between them. For this reason, the ratios of yesterday are not the ratios of today; nor will the ratios of today be those of tomorrow; and, if the exchanges are to be made upon an equitable basis of equivalence of hindrances surmounted, there would be an incessant demand for an intelligent revision of all these ratios—a demand which it would be almost impossible to meet. But these inconveniences are not all. Besides the shifting ratios of exchange due to a multiplicity of hindrances, should be added those arising from wide differences in the character or nature of those hindrances. So widely different are these that it is often difficult to find any common ground for comparison between them. The imperative need of some means for removing these difficulties is too apparent to need emphasis.

The most practical, although by no means a perfect, relief from the difficulties here encoun-

tered, is to be found in the selection and general acceptance of some specific, but typical and hypothetically constant, hindrance with the gravity of which all, through experience, observation, or the testimony of others, may become sufficiently familiar to enable them to comprehend its significance when employed as a unit or standard of greater or less difficulty of attainment.

The relation of this unit to the exposition which has gone before is evident. As is the gravity of the obstacles or hindrances encountered in the production of a product, such is the utility of a service which, by surmounting them, supplies it. This being true, it follows that a condition precedent to an intelligent conclusion relative to the utility of the service that supplies the product, is a clear conception of the gravity of the hindrances it is necessary to surmount. That is to say, there can be no intelligible measure of the utility of a service—that which one does for another—other than that found in the greater or less gravity of the hindrances it has been necessary by this service to surmount in order to supply the product.

§ 2. In the minds of most people a unit which measures the greater or less hindrance, and the

unit which measures the value of the product, resulting from this effort, are usually inseparably associated. So close is this association between the tangible task of surmounting it, and the product itself, that the product quickly becomes the accepted symbol of the difficulty of attainment, in terms, ratios, or multiples of which other difficulties of attainment of every sort may be expressed. That is to say, the popular mind incorrectly and unconsciously carries over to the product, and ascribes to it, as an attribute, the qualities of usefulness that in fact attach only to the services that are necessary for overcoming the hindrances incident to its production. As soon as we can conceive of a typical and theoretically constant hindrance—or the product that through association suggests this hindrance—we shall secure an accepted unit, or standard, in terms of which the gravity of any given difficulty of attainment may be expressed. This standard will serve as a common denominator, thereby facilitating intelligent comparison between dif ficulties of attainment having so little in common as to render direct comparison between them difficult, if not impossible.

Thus, if the hindrance attendant upon the production of X becomes the accepted unit for the measurement and comparison of quanti-

tative hindrances, and if we find that the difficulty of attainment of Y is the quantitative equivalent of the difficulty of attainment of X, we unhesitatingly express this idea by saying, "Y equals X," or, conversely, "X equals Y," although, as a matter of fact, there is absolutely nothing in common between the properties of these two products. While the character of the typical hindrance employed as a unit of this sort is seemingly of little importance, it is evident that to be sufficiently familiar to be intelligible to all, it should suggest such specific and theoretically constant difficulties of attainment as would attend the production of a given product under practically changeless conditions of environment.

§ 3. It is customary to regard the employment of a unit of this sort as conclusive evidence of considerable advancement in economic enlightenment; and doubtless the more highly developed the society, the more perfectly adapted to its purpose will be the specific product whose difficulty of attainment is employed as a unit. Nevertheless, so essential is this unit to an intelligent division of labor upon an equitable basis that is it difficult to conceive of a self-sustaining group, however insignificant numer-

ically, that would not instinctively resort to the employment of some familiar, but typical, unit of difficulty of attainment, in terms of which the gravity of other and less familiar hindrances might be expressed, and by means of which quantitative comparisons between them might be made.

This operation might be illustrated from the instances hitherto employed. For example, it might be supposed that every member of a community is compelled to secure his daily supply of one bucket of water from a spring one mile distant, and that the average weight of his burden is, say, twenty pounds. The hindrance to be surmounted in producing this water involves a walk of one mile and return, bearing the above-mentioned burden. This hindrance includes the qualities necessary to render it an acceptable standard of other difficulties of attainment. Two of these qualities it would have in a high degree, namely, invariability and familiarity. These alone would render it acceptable as a standard, or common denominator, in terms of which the gravities of all other hindrances might be expressed, and the ratios between them intelligently determined. Clearly, it is a matter of little importance what specific hindrance is selected as a standard in which concepts of

hindrances are expressed, so long as that hindrance, or the product that suggests it, is sufficiently familiar to serve as a means of conveying to the minds of all, a clear and distinct conception of the greater or less gravity of the hindrance in question.

§ 4. The application of the above principles to the use of a concrete form of money is simple. Any form of coined money is a specific product, the greater or less difficulty of attainment of which, being supposed for the time being to be constant, finally becomes familiar to all. Thus it becomes fitted for employment as a common standard, in terms of which, not only hindrances of every sort, but also the greater or less utility of the services that surmount these hindrances, may be expressed and compared. Whenever a sum of money is accepted as compensation for a service that surmounts a hindrance, it shows that the hindrance in producing the article is the equivalent of the hindrance necessary to be overcome in the production of the metal from which the coin is struck. When this acceptance of money is well-nigh universal, it imparts to it a currency, because it furnishes a means of making compensation for an equivalent service. This

currency gives it a utility to the possessor quite distinct from the utility of the metal from which it was coined.

Almost any familiar product, the constancy of whose difficulty of attainment is measurably assured, might perform the very important function of a standard of difficulty of attainment, and consequently of exchange value, or of the utility of the service that surmounts this difficulty of attainment. However, it is evident that, to perform satisfactorily all the functions of money, it must have qualities other than mere steadfastness in difficulty of attainment. The experience of centuries seems to have demonstrated the marked superiority of the so-called precious metals, gold and silver, for this purpose. The employment of two different products as a standard, however, is likely to furnish difficulties. If there is no necessary relation between the hindrances of these two products, it is possible that temporarily they might become equivalents at a given ratio of exchange; but there is no reason to suppose that this relation could be maintained. There is thus an obvious difficulty necessarily attendant upon the attempt to force a constant relation in the qualities of two things, that are independently variable, each from the other.

§ 5. Thus we are led to see that money is primarily a standard of the hindrances of other commodities; that is to say, it is an accepted unit of the greater or less gravity of the obstacles and hindrances, that constitute economic difficulty of attainment. That is, the money represents, and in a certain sense embodies, the obstacles encountered in the production of the money-product. As such, it becomes readily, indeed we might say instinctively, the accepted standard in terms of which the utility of a service that surmounts an equivalent difficulty of attainment is most intelligibly expressed.

Since the sole function of a service is to surmount the obstacles that make up difficulty of attainment, and since the greater or less utility of the service varies absolutely with the extent of that which is surmounted, the perfect adaptability of a unit of hindrance for employment as a unit of exchange value, or for the utility of the service, is apparent. Not only is the unit of difficulty of attainment perfectly adaptable for employment as a unit for measuring the utility of a service, or of exchange value, but it is difficult to conceive of any other means, or device whereby intelligible expression can be given to concepts of this sort. Indeed, it may be said that but for the fact that the money unit is,

first of all, a standard of hindrance it could not be intelligently employed as a suitable unit for giving intelligent expression to changes in exchange value. In other words, it must be a unit in terms of which the utility of a service that surmounts the hindrance it stands for may be expressed.

We may now accept the conclusion that the primary function of money is to serve as a standard of greater or less difficulty of attainment. In multiples of this familiar unit, we convey to the mind of another the extent of any difficulty of attainment known to us, howsoever unfamiliar it may be to him. By reducing hindrances of the most diverse character to this common denominator of hindrances, the ratios between them are readily ascertained.

We will recall that the utility of a service that surmounts a given difficulty of attainment is wholly contingent upon that difficulty of attainment; and is only limited by the utility of the product. We now have a familiar and assumedly constant unit of such difficulty of attainment. Such a unit, in the form of money, has by a well-nigh universal consent been accepted and adopted as the standard best fitted for use as a means of giving intelligent expression to concepts of value. Furthermore, since the metal

from which the unit is coined is essential to the coined unit, the mere existence of this coin affords conclusive evidence of the greater or less utility of a service that supplies it.

Since the gravity of the difficulty of attainment which must be overcome, and consequently the utility of a service that surmounts it, is wholly contingent upon the quantity and quality of the metal—usually one of the precious metals—embodied in the coin, the task of accurately determining and certifying to its weight and fineness is usually undertaken by the representative of all of us, namely, the state. As evidence of the standard quantity and quality of the metal in each coin, the seal of the state is affixed, and other precautionary measures are taken to guard against its being tampered with, for if, by the veriest fraction, it is reduced in either quantity or quality below a certain arbitrary limit of tolerance, it instantly ceases to be that which on its face it purports to be; it is no longer even a legal equivalent of the difficulty of attainment, and consequently of the value of the service, which its denomination indicates.

Finally, some writers[1] wrongly regard as inherent properties of a product (such as money) the utility of the service that surmounts the

[1] J. B. Clark, *op. cit.*, p. 79.

difficulty of attainment of this product. The error of this position is shown by the fact that the utility of money as a means of making compensation for services rendered, remains unimpaired, even though the money-product (as for example, a legal-tender note) has no inherent qualities to which utility can be attached.

§ 6. Clearly enough it is only by comparison that we are able to convey to the mind of another a concept of the quantitative gravity of a given hindrance, as it lies in our own mind. Thus, we may say, the gravity of a given hindrance equals, or bears a certain relation to, the gravity of certain other hindrances with the gravities of which he is supposedly familiar. If his capacity to surmount the hindrances cited for comparison is on a perfect parity with our own—which is in the highest degree improbable—then, and then only, will we succeed in accurately conveying to the mind of another a true conception of the quantitative gravity of the hindrance in question, as it lies in our own. Thus it is that, in the absence of an acceptable hindrance-unit, a necessary preliminary to every contemplated exchange would be an effort to reach a mutually satisfactory agreement, by means of a direct comparison between the quantitative gravities

of the two hindrances involved; this would be a task that, in the event of a wide difference in their characters, would be beset with many difficulties.

With the normal man available for reference as to the relative gravities of hindrances, it seems more than probable that, as a means of avoiding the inconveniences attendant upon the constantly recurring necessity for determining the quantitative ratios between the gravities of a multiplicity of hindrances, society would be quick to seek the relief afforded by the comparatively simple expedient of selecting some familiar, but specific and typical hindrance, whose quantitative gravity as revealed by the cost to the normal man, would be known to all. A hindrance of this sort once agreed upon, would find instant employment as a unit, or standard, in terms, multiples, and ratios of which the quantitative gravity of objective hindrance of every sort and character could be readily expressed and as readily understood by all. While in the nature of the case it will be difficult, if not impossible, to secure absolute constancy in the gravity of the hindrance-unit, this is not a matter of importance in determining the relative gravities of any two or more hindrances at any given time and place, when it must bear the same quantitative relation to one hindrance that it does to others.

So inseparably associated with the hindrance-unit is the product, which is or may be the only tangible result of surmounting it, that in time the product itself becomes the accepted symbol, in terms of which the hindrance-unit, or its quantitative gravity, is commonly expressed. That this unit would be equally well adapted for employment as a means of giving intelligible expression to normal or competitive cost-relations is apparent, since their relation to the gravities of objective hindrances is always constant. No less perfectly adapted would be this unit, or the product which is its symbol, for employment as a unit or standard of value. For, as is the quantitative gravity of a hindrance, such, in the very nature of the case, must be the quantitative utility of the service which, by surmounting it averts the cost-impairment that otherwise must have attended the production or acquisition of the needful product. Service-utility, that is, the utility of the service which by surmounting the objective hindrances incident to the *rendering available*, or production, of a needful product, is identical with that form or variety of utility, that, as Professor Clark has so ably pointed out, "cannot be dissociated from value."[2] The truth of this should now be

[2] *Op. cit.*, p. 73.

readily apparent to all who have had the patience to follow this discussion.

That our typical and representative hindrance-unit, in terms of which the gravities of hindrances of every sort may be intelligently expressed, would be perfectly adapted to perform many of the most important functions of money, becomes apparent when we reflect that "normal cost," which, as has been seen, is wholly contingent upon the quantitative gravity of objective hindrances, is the only rational basis of that service-utility, which, in its last analysis, gives value. Without stopping to discuss the matter further, it may be said that but for the fact that the money unit is, first of all a unit or standard of the quantitative gravity of the hindrance to be surmounted in producing the metal from which it is coined, it could not serve as a quantitative unit of the utility of the service that surmounts the hindrance of the metal.

Primarily, then, the money unit is a standard of objective hindrance. As such a unit it necessarily varies directly with the gravity of the hindrance it represents. If a hindrance to be surmounted in the production of the metal from which a coin is struck increases in gravity, the value of the coin—meaning thereby the utility of the service that supplies it—must proportion-

ately appreciate. If its gravity decreases, the value of the coin must proportionately depreciate. This law is as irrevocable as the traditional law of the Medes and Persians. A perfect comprehension of its operation makes clear the insurmountable difficulties attendant upon the maintenance of the double money standard, as before observed, which would necessarily involve the maintenance of fixed and unvarying relation between two independently variable hindrances.

But, in view of the fact that the normal man is largely an abstract conception, where are we to look for data so authoritative that, in the face of conflicting interests, the parties to a contemplated exchange of product for product will be enabled on a basis of equivalence in the hindrances, to reach a mutually satisfactory agreement as to a true quantitative relation between these hindrances? Our reply is, that society through free competition has given us a better means than the normal man. Not only does free competition, through "competitive cost," afford the requisite data, but it commands the acceptance of its decrees by enforcing the penalty of loss upon all who refuse or neglect to observe them. Under free competition, each individual for himself makes voluntary choice of the character of the hindrances against which his productive

energies shall be directed. If he errs in judgment, he pays the penalty in loss; if he chooses rightly, he reaps his reward in profit. By cultivating his capacity in a given direction, it becomes relatively high, not only when compared with his own capacity for other things, but as well when compared with the capacities of his associates to surmount the same or equivalent hindrances.

While it is not reasonable to suppose that an intelligent being will purposely lower his capacities in any direction for the apparent increase in profit which might accrue, each will find it the course of wisdom to cultivate his capacity to the utmost limit in the vocation of his choice. As a consequence, the productive capacity of society as a whole would be raised to the highest level. Under free competition "competitive cost" is the final arbiter of the relative gravities of hindrances. As the productive capacities of society as a whole improve, the relative gravity of hindrances proportionately decreases.

METALLIC AND PAPER MONEY

CHAPTER XIII

METALLIC AND PAPER MONEY

§ 1. Primarily money, as has been shown, is a unit, or standard, of quantitative hindrance. In other words, it is a commonly accepted unit of the quantitative gravity of the objective hindrances that constitute economic price. As is the gravity of the obstacles encountered in the production of that which constitutes the money unit, such, in the nature of the case, is the quantitative gravity of the price-hindrance the money unit represents, and in a certain sense embodies. As a familiar unit of quantitative price-hindrance it is perfectly adapted to, and readily becomes, the accepted unit or standard, in terms of which the utility of a service that surmounts its own or equivalent hindrances is most intelligibly, and therefore most conveniently, expressed.

Since the sole function of a service is to surmount the objective hindrances that constitute economic price-hindrance; and since the quantitative utility of a service that surmounts it is wholly contingent upon the gravity of the obstacles surmounted, the perfect adaptedness of the unit of price-hindrance for employment as a unit of service-utility, or value, becomes readily ap-

parent. Not only is the unit of price-hindrance perfectly adapted for employment as a unit of quantitative value or service-utility, but it is difficult to conceive of any other device whereby intelligent expression can be given to concepts of this sort. *Indeed it may be said, that, but for the fact that the money unit is, first of all, a standard of price-hindrance, it could not be intelligently employed as a quantitative unit or standard of service-utility, or value.* That is to say, it could not become the commonly accepted unit, or quantitative standard, in terms, ratios, and multiples of which the utilities of services that surmount objective hindrances of every sort and character could be intelligibly expressed. Quantitative hindrances expressed in terms of money is, in general economic usage, termed Price.

As is the quantitative gravity of the objective hindrances which it is necessary to surmount in order to render a needful product available for use, such, in the nature of the case, must be the value, or utility of the service that surmounts them. To know the utility of a service, which, by surmounting the price-hindrance of any given product, renders it available for consumption or exchange, it is essential to know the gravity of the specific hindrance upon which the service

is based. In the absence of information upon this point, we shall be without intelligent data upon which to base a rational conclusion as to that which by universal custom is termed the "value" of the product under consideration. That is to say, there can be no intelligible measure of that service-utility (which in its last analysis is value) other than that found in the quantitative gravity of the objective-hindrances such service must surmount in rendering a needful product available for consumption, or exchange.

Money is some specific product, the quantitative gravity of whose hindrances, being regarded as substantially constant, becomes in time measurably familiar to all, if not through actual experience in surmounting them at least through familiarity with its quantitative relation to other hindrances in the open market. It is thus perfectly adapted for employment as a unit, or standard, in terms of which, not only the gravities of price-hindrances of every sort but the utilities of services that surmount them, may be expressed and understood.

The fact of the well-nigh universal acceptance, or currency, of money as compensation for services that surmount other but equivalent hindrances, imparts to it a utility as a medium

of exchange, quite apart from the utility of its properties or qualities for other purposes.

§ 2. In every discussion of the money question it is convenient, but confusing, to mix up two things that ought to be kept separate: (1) The amount of utility, which, having its origin in, by right attaches only to, the service that has rendered the product available for use, or exchange, and (2) the utility of the product itself; and the former ought not to be transferred to the latter. Because it has been, time out of mind, convenient to assign the utility of the service to the product itself, the confusion above described is a natural result. So obscured by the antiquity and the universality of this practice of treating value as an inherent property of needful products has the subject become, that society seems long since to have lost sight of both the origin and the true significance of the phenomena which the term suggests.

Thus, to the present day, the chief argument advanced in advocacy of metallic or coined money over an authoritative promise to pay metallic money is based upon the assumption that that most mysterious but evanescent fluid, value, actually inheres in the metallic money, while the promise to pay is at best but an author-

itative declaration, or fiat, of inherency, which in the nature of things cannot exist. So, too, in the present-day discussion of the relative values of gold and silver coins, we are gravely informed by politicians, legislators and administrators of high and low degree, that the "inherent value" of the gold dollar is (approximately) double that of the silver dollar; and, if asked to explain the cause of this apparent anomaly, they will gravely inform us, that it is due to the fact that the "inherent value" of the metal from which the gold coins are struck is double that of the metal in the silver coins of the same denomination; or, if they wish to be extremely accurate, they will inform us that the "intrinsic value" of 23.22 grains of pure gold is double the "intrinsic value" of 371.25 grains of pure silver.

§ 3. The utter absurdity of the contention that value "inheres in," and is therefore a permanent and abiding quality of the precious metals, or that it is "intrinsic" and pertains to the very nature of the gold, or the silver, from which at the present day nearly all coins are struck, becomes apparent when we reflect upon the daily, even hourly, fluctuations in their relative values in the open markets of the world, wherein is

found the final test of the relative values of all products. Indeed to argue that value "inheres in," or is an intrinsic property of, gold and silver, is to contend that the very natures of these products have undergone a most remarkable change since 1871. Thus for upward of 40 years prior to that time, the 412.5 grains of silver of standard ($\frac{9}{10}$) fineness, had slightly greater value in the coinage, than 25.8 grains of gold of equal fineness. As a consequence, and in accordance with the law governing such matters, as formulated by Sir Thomas Gresham, the possessor of silver bullion, having found that it had greater utility for other purposes than it had as money, knew it would be to his disadvantage to employ it as money. As a consequence, silver coins, which, during this period commanded a premium for employment as bullion, were withdrawn from circulation.

But where are we to look for an explanation of this most radical change in what is termed the relative values of these two metals, whose "inherent" and "intrinsic" properties, must in the nature of things have been the same in 1896, as they were during the period from 1832 to 1871? The answer is found in the fact that so radical were the changes that had taken place in the conditions that determine the relative grav-

ities of the competitive hindrances[3] necessary to be surmounted in ministering to the demand for these two metals, that in 1896 the gravity of the greatest hindrance it was necessary to surmount, in order to supply 412.5 grains of standard silver, was approximately but one-half as great as that attendant upon supplying 25.8 grains of standard gold. It seems a self-evident proposition, that under such conditions the utility of a service which, by surmounting the objective hindrances incident to rendering the required amount of gold available for coinage, must be double that attendant upon rendering the requisite amount of silver available for a like purpose. The utter absurdity of the supposition that these changes in the conditions attendant upon the production of these two metals, could operate to effect changes in their real natures, or in their elementary properties, is too ridiculous for serious consideration.

§ 4. Much, if not all, the confusion attendant upon the discussion of the money question during the last half-century, if not for all time, has arisen from the confirmed practice of carrying

[3] By "competitive hindrance" is meant, as previously explained, the greatest hindrance necessary to be surmounted in order to meet the demand for a given product at the existing ratio of exchange between it and other products in the open market.

over to the product as an inherent property of the metallic coin so much of usefulness as equals the utility of a service that, by surmounting the objective hindrances attendant upon its acquisition, has rendered it directly available for coinage. *As is the quantitative gravity of the competitive hindrance surmounted in the production—or rendering available—of the metal from which a piece of money is coined, such, in the very nature of the case, is the quantitative gravity of the price-hindrance the coin stands for;* such, too, must be the quantitative utility of the service—usually and wrongly treated as an inherent and abiding property of the product—which by surmounting this price-hindrance renders this metal available for coinage. In other words, as is the "normal," or "competitive," cost averted by supplying this metal, such, in the nature of the case, is the utility of a service that, by supplying it to another, averts, or relieves him from, the necessity of submitting to this cost, as a condition of acquiring it.

Since the quality (or fineness) is of no less importance than its quantity, as a factor in determining the quantitative gravity of the price-hindrance which a coin represents, the utmost care is exercised in determining both its weight and its fineness. By this means, we secure our

nearest approach to the practically unattainable —a constant and unvarying standard of quantitative hindrance, as a basis for a like standard of that service-utility, which gives value.

§ 5. To provide against deception and fraud through light weight or debasement of the metal employed for coinage, the state as the representative of all of us, usually assumes the task of coining the money units. Under free coinage—that is, where the government imposes no seigniorage for its services—that which passes for the value of the coined unit will be on a perfect parity with the value of the bullion from which it is coined.

In the event of a seigniorage charge, however, —that is, where the state demands compensation for the service it has rendered—the gravity of the price-hindrance each coin truly represents will exceed the value of the bullion from which it is struck by the sum of this charge. As a consequence, while a seigniorage charge works no injustice, it would tend to render it unprofitable for metal workers to resort to even full-weight coins for their raw material.

While the state may very properly determine the quantity of the alloy employed in the coinage, and arbitrarily give a name to each coin struck,

it is quite beyond the province of the state, quite beyond the province of any ruler, council, or legislative body, to fix, or control the value of the coined unit. While the name, stamp, or seal borne by each coin may usually be accepted as conclusive evidence of the exact quantity and quality of the metal it contains, its true value is absolutely contingent upon the gravity of the "competitive hindrance," or hindrance of greatest gravity, which it will be necessary to surmount, in order to maintain the existing relation between the demand for and supply of the metal from which the coins are struck.

Though, as has been said, the legend stamped upon the coin may usually be accepted as conclusive evidence of the quantity and quality of the metal, it is after all but *prima facie* evidence of the original intent. Should actual test reveal either debasement of the coin, below the legal standard of fineness, or lightness of weight, below an arbitrary limit of tolerance, the coin would be but a pretense of what it proclaimed itself to be, and as a consequence a penalty would attach to passing it at its face value. On the other hand, should the coin have an overweight of metal, a most improbable supposition, it would be worth proportionately more as bullion than as coin. The result would be

its immediate conversion into bullion by its possessor.

§ 6. Concerning bimetallism, or the concurrent circulations of coins struck from two different metals, independently variable as to the gravities of their hindrances, this may be said. If the competitive hindrance necessary to be surmounted in order to render 25.8 grains of standard gold available for the coinage of a gold dollar is the exact equivalent of the competitive hindrance necessary to be surmounted in order to render 412.5 grains of standard silver available for the coinage of a silver dollar, then must the gold dollar and the silver dollar represent hindrances of equivalent gravity; and this being true, each must represent the same unit of value, or service-utility. If, however, the gravities of these two competitive hindrances differ in degree, no power on earth below or in Heaven above can make the utility of a service that surmounts one of these hindrances the equivalent of that which surmounts the other of them. Furthermore, lacking equivalence in value they cannot freely circulate side by side at their face value. That is to say, in accordance with Gresham's Law, the money of greatest value will be withdrawn from

circulation as money, and disposed of as bullion.

The concurrent circulation of subsidiary coins, or token money, side by side with coins of greater value, far from discrediting the universal applicability of Gresham's Law, serves to confirm it. As experience has shown, it is only through a governmental monopoly of the right to issue coins of this character, that they are prevented from usurping the field as a money of account, since the full-weight standard coins would bring a premium in the depreciated money as bullion.

The 412.5-grain silver dollar of our coinage is a case in point. Though originally intended for no such ignoble purposes, the unparalleled reduction in the relative gravity of the competitive price-hindrance necessary to be surmounted —as compared with gold—in order to meet the demand for the silver from which it is coined, it has so fallen from its former high estate that, in order to prevent its driving gold from the field as the money of account, the state has arbitrarily restricted its volume to the demands of trade for minor transactions. In short, the "dollar of our fathers" is no longer a standard of value (based upon the gravity of the objective hindrances it is necessary to surmount in order to

supply the metal from which it is coined), but it is a subsidiary coin, chiefly useful as a means of conducting small transactions. In passing, it may be added that, owing to popular misconception as to the character and nature of the phenomena of value, this dollar is a serious menace to the financial honor of the nation.

§ 7. Concerning paper money, so called, which at best is but a more or less authoritative, but conditional, promise to pay money at some future time, but little need be said. Except in the dignity, and power of the promissor, the promise of a state to pay money, differs in no essential respect from a like promise by the humblest of its subjects.

It should need no labored argument to convince one of the most ordinary intelligence, that the *promise* to render a service at some future time is not, and in the very nature of the case cannot be, the ultimate and final *fulfilment* of that promise. No more should it be difficult to persuade him that the most dignified and authoritative promise to pay money, is not the actual money promised. True, the promise may be as "good as money" to him who is compelled to accept it; indeed it is not difficult to conceive of

conditions under which it may be so much more convenient to transport than the money promised, as to command a premium proportionate thereto. But under no conditions can it be truly regarded as the perfect fruition of the promise. Since the bit of paper upon which the promise is stamped truly represents no proportionate hindrance surmounted, and since of itself it has not that utility which passes for its value (meaning thereby its compensatory power in exchange), such paper rests upon faith in the ultimate fulfilment of the promise.

A case in point is found in the so-called "greenback" issue with which all in this country are familiar. While at the present time no one seems to doubt the ability, or the intention, of the state to meet its promises to pay the coin stipulated in its notes on demand, it is not difficult for those of us who have reached advanced years to recall the time when the credit of the state—faith in both its ability and its intention to keep its promises—was at such low ebb, that it required almost three of its "promises-to-pay" one dollar to purchase a single gold coin of that denomination, or the metal from which it was struck; and it took even a fraction more to purchase the silver "dollar of our fathers," or its metallic content.

§ 8. By an arbitrary, but as experience has abundantly shown, an unwise exercise of its powers, the state can unfortunately compel its creditors—those who, having rendered it a stipulated service, are justly entitled to demand therefor the compensation stipulated—to accept its promise to render this service, at its own convenience in the place of the actual rendition of the service stipulated. To mitigate, or in some measure to relieve its creditors from, the hardships imposed upon them by this exercise of its confiscatory powers, as well as to provide for future contingencies, the state may, and does, make it compulsory upon the part of all its subjects to accept tenders of these promises-to-render-a-service as full and ample compensation for every service heretofore rendered. The injustice that as a rule follows in the train of the state's resort to such extreme measures as a means of meeting financial difficulites is surpassed only by its unwisdom. Although it is not permitted the subject-creditor to deny that the state's promise to supply in the future the stipulated hindrance-bearing product is the product promised, it is quite beyond the power of the state to deprive him of the right to place such estimate as may commend itself to his judgment upon the compensatory power of this promise to render

future services. As a consequence he may, and will, demand not only such increased compensation for future services as will in his judgment make ample compensation therefor, but he will add thereto a sum sufficient to insure himself against loss from further depreciation in the market value of these promises. That is to say, he will add to that which under normal conditions would have been an equitable compensation for his service, a sum fully sufficient, or even more than sufficient, to cover any probable depreciation arising from delay in or uncertainty as to the ultimate fulfilment of these promises. An exercise of this clearly unpreventable right, by that which at the time may seem an insignificant minority of its people, marks the inevitable beginning of an era of depreciation. And yet this paper, since it is a legal tender for obligations incurred, quickly becomes the current money unit of exchange in terms, ratios and multiples of which the relative market values of products of every sort and kind are most commonly expressed and understood.

An inherent weakness of every form of fiatism is found in the utter inability of the state to regulate, much less control, the estimates its subjects will put upon the compensatory power of its promises. For though, as we have seen,

it can make its promises to pay a coined dollar a legal tender for the actual payment of an existing claim for that coin, it is powerless to control the estimate its subjects will put upon these promises as compensation for services yet unrendered.

The most fruitful sources of depreciation in the compensatory power of the state's promises and, incidentally, a justification of those whose action promotes that end, are found not only in the inconvenience that may result from waiting upon their fulfilment, but also in the lack of confidence in either its ability or its intention to do so. While the depreciation from the first-named cause should not be great, the slightest suspicion of the latter may, and probably will, quickly result in popular repudiation of these promises, as an unreliable and unsafe medium for the transaction of business.

The first symptom of depreciation in a legal-tender circulation, consisting of the state's promises to pay money, is the steady withdrawal of real money from the channels of trade. This is quickly followed by a permium on coin as expressed in terms of the discredited, and therefore depreciated, promise-to-pay money.

When once an era of depreciation has set in, there is but one infallible method by which the

extent of depreciation can be determined, and that is found by a direct comparison between the state's promise to pay the coin unit—say, one dollar—and the actual coined dollar promised. If in the open market the latter commands a premium—in terms of the depreciated circulating medium—it must be accepted as final and conclusive evidence, *not* of an increase in the compensatory power of the coined dollar, but of a *depreciation in the compensatory power of the state's promise to pay* a *coined dollar*. For example, if the market value of a coined dollar is $1.10 in terms of the state's promise to pay one coined dollar, it is a self-evident proposition that the value of the coined dollar is the equivalent of the state's promise to pay one dollar and ten cents ($1.10).

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